

Third West Weekly Report Shepherd, Michael

Joyce Ackerman, 'Craig Barnitz (cbarnitz@utah.gov)' 05/02/2012 04:56 PM

Hide Details

From: "Shepherd, Michael" < Michael. Shepherd@rockymountainpower.net>

To: Joyce Ackerman/R8/USEPA/US@EPA, "'Craig Barnitz (cbarnitz@utah.gov)" <cbarnitz@utah.gov>

7 Attachments

Weekly Report 04-23 to 04-27-12.pdf Third West Weekly Log 2012-17.pdf 234381-1.pdf 234494-1.pdf 234591-1.pdf

234685-1.pdf 234797-1.pdf

Joyce & Craig,

Attached are the reports for the week of April 23, 2012.

All air monitoring results came back negative, except one hit on Monday, April 23, 2012.

Please let me know if you have any questions.

Thanks,

Mike Shepherd **Project Manager Rocky Mountain Power - Major Projects** 801.220.4584 Office 801.631.1310 Cell 801.220.2797 Fax michael.shepherd@pacificorp.com





3RD WEST SUBSTATION REMEDIATION PROJECT

HEALTH SAFETY MANAGER (HSM)

DAILY CHECKLIST

	DAIL I CHECKLIST
DATE:	04/23/11
General	
	area Health and Safety Inspection
NA WOIK	Review and if necessary update Activity Hazard Analyses (AHA) based on planned site
IIA ,	
BT A	activities for the day
NA	Safety Planning or "Tailgate" mandatory meeting for all employees and contractors prior to commencement of any site work. Instruction, review hazards, health & safety issues and any modifications to the CSHASP
NA	Site hazard and safety instruction for all first time employees, contractors or visitors
NA	Complete Employee Meeting Record Form B (where applicable)
NA	Document required Respirator Training completion with Form H
NA	Record times and numbers of dump trucks and trailers as they leave the site with
1177	contaminated material.
NA	Confirm return of waste material manifest documents for each load with site
	manager.
NA Comp	lete all CSHASP Forms (for applicable activities planned for that day)
NA.	Illness/Injury Report Form A
NA.	Site-Specific Training Record Form C
NA	Hot Work Permit Form D
NA NA	Trench/Evacuation Permit Form E
NA NA	Combined Space Entry Permit From F
V.	Exclusion zone operations are practiced as instructed.
	 ✓ Decontamination unit is working properly. ✓ Workers are using decontamination unit as instructed.
	$oldsymbol{arphi}$
	✓ Workers use personal protective equipment properly.
\square	Set air samples at cardinal compass points around exclusion zone. Check
	throughout the day to ensure proper operation.
	Observe control measures for dust and fugitive materials i.e. watering excavation
	sites and track out prevention.
\square	Review sign-in/sign-out log throughout and at the end of the workday.
\square	Secure the site at the end of the workday
Sampling	Į
	Confirmation sampling for any newly excavated areas
\square	Stationary Air Monitoring during contaminated soil removal around the perimeter of the
	exclusion zone
NA	Personal Breathing Zone Monitoring on personnel conducting contaminated dust and soil
	removal
NA	Digitally photograph each sample location and at any place field sampling personnel determined necessary





		Electronically file photo files into the on-site database
☑		Complete Field Documentation
	$\overline{\mathbf{A}}$	Field Sample Data Sheets (FSDS)
	$\overline{\mathbf{A}}$	Logbook
		On-site computer database
\checkmark		Label each sample media with a unique number
\checkmark		Seal sample(s) in zip lock plastic bags
4		Complete and include Chain of Custody (COC) Form required for shipping of samples to appropriate laboratory
√		Package samples for transport IAW SOP 2-1, Packaging and Shipping of Environmental Samples
☑		Review and disseminate sample results as received from the laboratories to Project Manager and other appropriate managers and employees
		Electronically file sample reports into on-site database



Project: 3rd West Sub Station	Date: <u>04/23/12</u>
Location: 3rd West, 1st South, SLC	Job Number:
Survey Conducted By: Justin Kargis	Title:

		In Compliance	Out of Compliance	N/A	Corrective Action Taken and
Standard	Title				Date
1926.59	Hazard Communication Program, List of Chemicals, Training, MSDSs.			х	
1926.500 (b) & (d) (old standard)	Guardrails on open sided floors, floor holes and runways.			х	
1926.404 (b)	Ground fault circuit interrupters or an assured equipment grounding conductor program in use.	х			
1926.451 (b)	The employer shall instruct each employee in the recognition and avoidance of unsafe conditions.			х	
1926.451 (d)	Tubular welded scaffolds shall be properly braced so that they are plumb, square and rigid; legs on plumb, adjustable, mud sills, etc. to support the maximum load; guardrails and toe boards shall be installed.			х	
1926.100 (a)	Head protection, where there is a possible danger of head injury.	X.			

		In Compliance	Out of Compliance	N/A	Corrective Action Taken and
Standard	Title				Date
1926.652 (a)	Excavation protective systems; examination by competent person when less than 5 feet in depth.			x	×
1926.20 (b) (2)	Employer responsibility to initiate and maintain safety and health programs.			x	
1926.20 (b)	Employer responsibility to provide for frequent and regular inspections by designated competent persons.			x	
1926.451 (e)	Manually propelled scaffolds shall have tight planking for the full width, platforms secured, ladder or stairway provided, suitable footing, stand plumbs, wheels locked, guardrails and toe boards.			x	
1926.1052 (c) (1)	Stair rail and handrail along each unprotected edge.			x	
1926.25 (a)	Debris, scrap lumber with protruding nails, not cleared for work areas, stairs and around structures.			x	
1926.50	First aid shall be available in the absence of an infirmary, or other that is reasonably accessible; first aid supplies shall be accessible and telephone numbers posted.	х			
1926.451 (a) (13)	Scaffolding safe access not provided by ladder or equivalent.			x	
1926.651 (k) (1)	Excavations, protective systems, inspected daily by a competent person and as needed.			х	
1926.403 (b) (2)	Employer shall ensure electrical equipment is free from recognized hazards, is suitable, used in accordance with the listing, labeling or certification.	х			

		In Compliance	Out of Compliance	N/A	Corrective Action Taken and
Standard	Title				Date
1926.451 (a) (4)	Scaffolding shall have guardrails and toe boards when more than 10 feet high and when less than 45 inches of work space.			х	,
1926.405 (g) (2)	Flexible cords shall be used without splice or tap; strain relief shall be provided.		,	х	
1926.405 (b)	Electrical boxes, fittings shall have covers, faceplates or canopy and holes shall be smooth where cords pass through; and unused openings in cabinets/boxes shall be closed.	х			
1926.701 (b)	Reinforcing steel onto which employees could fall shall be guarded.			x	
1926.1053 (b) (1)	Portable ladder side rails extend at least 3 feet or be secured at top.			х	
1926.651 (j) (2)	Excavations shall have materials or equipment placed at least 2 feet from the edge.			х	
1926.651 (c) (2)	Excavations shall have a safe means of egress such as ladders, ramps, etc.	х			*
1926.150 (c) (1)	Portable fire fighting equipment shall be provided and extinguishers shall be inspected periodically.	х	2		
1926.102 (a) (1)	Eye and face protection shall be provided.	х	1		
1926.300 (b) (2)	Guards for power tools shall be used and moving parts of equipment shall be guarded.	х			
1926.350 (a)	Oxygen cylinders in storage shall be separated from fuel gas cylinders by at least 20 feet or a ½ fire resistance barrier.	1.5		х	
1926.405 (a) (2) (ii) (e) & (f)	Temporary lights shall be protected from breakage, not suspended by their cords and extension cord.			Х	

		In Compliance	Out of Compliance	N/A	Corrective Action Taken and	
Standard	Title				Date Date	
1926.405 (a) (2) (ii) (j)	Extension cords used with portable electric tools shall be of three wire type and designed for hard or extra hard usage.	x				
1926.105 (a)	Workplaces more than 25 feet above the ground or water shall have safety nets when ladder, safety line/belts, temporary floors, scaffolds, catch platform are not practical.			х	÷	,
1926.1051 (a)	Stairway or ladder shall be provided at all access points where there is a break in elevation of 19 inches or more.			х		
1926.451 (a) (2)	Scaffolding footing or anchorage shall be sound, rigid and capable of carrying the maximum intended load.	х		i		
1926.500 (c) (1) (old standard)	Wall opening shall be guarded.			х	,	
1926.404 (f) (7)	Electrical equipment connected by cord and plug shall be grounded except if there is an isolating transformer or the tool is double insulated.	х				
1926.556 (b)	When working from an aerial lift, a full body harness and lanyard attached to the boom or basket.	х			,	
1926.501 (b) (1) (new standard)	Guardrails, safety nets or personal fall arrest system shall be used at 6 feet or more.			х		
1926.451 (a) (14)	Scaffold planking shall extend over their end support not less than 6 inches and not more than 12 inches.			х		
1926.602 (a) (9)	Bi-directional earth moving equipment shall have audible alarms.	x				

		In Compliance	Out of Compliance	N/A	Corrective Action Taken and
Standard	Title				Date
1926.451 (a)	Scaffolding shall be erected, moved, dismantled or altered under the supervision of a competent person.			x	
1926.550 (b)	Cranes, crawler, truck or locomotive, shall meet the design, testing, maintenance, and operation per ANSI B30.5_1968. The most recent certification shall be on file until a new one is prepared.			x	

Exclusion zone not active today.

Newman continued excavation between switch gear and transformers for conduit and spread footings.

This uncovered a small amount of native soil in the bottom of the dig sites that workers were temporarily close to. They applied water to the stock pile and large area of the yard to help with dust control.

CVE fabricators suited up to enter EZ boundaries to pour FTB over conduit along south and west areas of the yard.

CVE line crew continued working on ground grid cables.

CVE electricians continued working on control cable placement and connections.

Weather was hot and dry with slight breezes and temperatures in the high 80s.





3RD WEST SUBSTATION REMEDIATION PROJECT

HEALTH SAFETY MANAGER (HSM)

DAILY CHECKLIST

		DAIL I CHECKLIST
DATI	E : _	04/24/11
C	am amal	
	<u>eneral</u>	area Health and Safety Inspection
N.		Review and if necessary update Activity Hazard Analyses (AHA) based on planned site
17.	A	activities for the day
N.	٨	Safety Planning or "Tailgate" mandatory meeting for all employees and contractors prior
14.	A	to commencement of any site work. Instruction, review hazards, health & safety issues and any modifications to the CSHASP
N	A	Site hazard and safety instruction for all first time employees, contractors or visitors
N		Complete Employee Meeting Record Form B (where applicable)
N		Document required Respirator Training completion with Form H
NA	•	Record times and numbers of dump trucks and trailers as they leave the site with
		contaminated material.
NA		Confirm return of waste material manifest documents for each load with site
		manager.
NA	Compl	ete all CSHASP Forms (for applicable activities planned for that day)
	NA	Illness/Injury Report Form A
	NA	Site-Specific Training Record Form C
	NA	Hot Work Permit Form D
	NA	Trench/Evacuation Permit Form E
	NA	Combined Space Entry Permit From F
		Exclusion zone operations are practiced as instructed.
		☐ Decontamination unit is working properly.
		✓ Workers are using decontamination unit as instructed.
		✓ Workers use personal protective equipment properly.
✓	ī	Set air samples at cardinal compass points around exclusion zone. Check
	•	throughout the day to ensure proper operation.
		Observe control measures for dust and fugitive materials i.e. watering excavation
		sites and track out prevention.
✓	1	Review sign-in/sign-out log throughout and at the end of the workday.
✓		Secure the site at the end of the workday
	1.	
<u>S</u> :	ampling	
NA	Soil C	onfirmation sampling for any newly excavated areas
		Stationary Air Monitoring during contaminated soil removal around the perimeter of the
		exclusion zone
N	Α	Personal Breathing Zone Monitoring on personnel conducting contaminated dust and soil
		removal
N	Α	Digitally photograph each sample location and at any place field sampling personnel determined necessary





	Electronically file photo files into the on-site database
	Complete Field Documentation
	Field Sample Data Sheets (FSDS)
\square	Logbook
	On-site computer database
	Label each sample media with a unique number
	Seal sample(s) in zip lock plastic bags
	Complete and include Chain of Custody (COC) Form required for shipping of samples to appropriate laboratory
	Package samples for transport IAW SOP 2-1, Packaging and Shipping of Environmental Samples
	Review and disseminate sample results as received from the laboratories to Project Manager and other appropriate managers and employees
	Electronically file sample reports into on-site database
	\square



Project: 3rd West Sub Station	Date: <u>04/24/12</u>
Location: 3rd West, 1st South, SLC	Job Number:
Survey Conducted By: Justin Kargis	Title:

Standard	Till	☐ In Compliance	Out of Compliance	N/A	Corrective Action Taken and Date
1926.59	Title Hazard Communication Program, List of Chemicals, Training, MSDSs.			x	Date
1926.500 (b) & (d) (old standard)	Guardrails on open sided floors, floor holes and runways.			х	
1926.404 (b)	Ground fault circuit interrupters or an assured equipment grounding conductor program in use.	х			
1926.451 (b)	The employer shall instruct each employee in the recognition and avoidance of unsafe conditions.			х	
1926.451 (d)	Tubular welded scaffolds shall be properly braced so that they are plumb, square and rigid; legs on plumb, adjustable, mud sills, etc. to support the maximum load; guardrails and toe boards shall be installed.			х	
1926.100 (a)	Head protection, where there is a possible danger of head injury.	х			

		In Compliance	Out of Compliance	N/A	Corrective Action Taken and
Standard	Title				Date
1926.652 (a)	Excavation protective systems; examination by competent person when less than 5 feet in depth.			х	
1926.20 (b) (2)	Employer responsibility to initiate and maintain safety and health programs.			х	
1926.20 (b)	Employer responsibility to provide for frequent and regular inspections by designated competent persons.			x	
1926.451 (e)	Manually propelled scaffolds shall have tight planking for the full width, platforms secured, ladder or stairway provided, suitable footing, stand plumbs, wheels locked, guardrails and toe boards.			x	
1926.1052 (c) (1)	Stair rail and handrail along each unprotected edge.			х	
1926.25 (a)	Debris, scrap lumber with protruding nails, not cleared for work areas, stairs and around structures.	ı		x	,
1926.50	First aid shall be available in the absence of an infirmary, or other that is reasonably accessible; first aid supplies shall be accessible and telephone numbers posted.	х			
1926.451 (a) (13)	Scaffolding safe access not provided by ladder or equivalent.			x	
1926.651 (k) (1)	Excavations, protective systems, inspected daily by a competent person and as needed.			x	
1926.403 (b) (2)	Employer shall ensure electrical equipment is free from recognized hazards, is suitable, used in accordance with the listing, labeling or certification.	х			

		In Compliance	Out of Compliance	N/A	
Standard	Title				Corrective Action Taken and Date
1926.451 (a) (4)	Scaffolding shall have guardrails and toe boards when more than 10 feet high and when less than 45 inches of work space.			х	
1926.405 (g) (2)	Flexible cords shall be used without splice or tap; strain relief shall be provided.			x	
1926.405 (b)	Electrical boxes, fittings shall have covers, faceplates or canopy and holes shall be smooth where cords pass through; and unused openings in cabinets/boxes shall be closed.	x			
1926.701 (b)	Reinforcing steel onto which employees could fall shall be guarded.			x	
1926.1053 (b) (1)	Portable ladder side rails extend at least 3 feet or be secured at top.			х	
1926.651 (j) (2)	Excavations shall have materials or equipment placed at least 2 feet from the edge.			x	
1926.651 (c) (2)	Excavations shall have a safe means of egress such as ladders, ramps, etc.	x			
1926.150 (c) (1)	Portable fire fighting equipment shall be provided and extinguishers shall be inspected periodically.	х		2	
1926.102 (a) (1)	Eye and face protection shall be provided.	х			
1926.300 (b) (2)	Guards for power tools shall be used and moving parts of equipment shall be guarded.	х			
1926.350 (a) (9)	Oxygen cylinders in storage shall be separated from fuel gas cylinders by at least 20 feet or a ½ fire resistance barrier.			х	
1926.405 (a) (2) (ii) (e) & (f)	Temporary lights shall be protected from breakage, not suspended by their cords and extension cord.			X	

		In Compliance	Out of Compliance	N/A	Corrective Action Taken and
Standard	Title ·				Date
1926.405 (a) (2) (ii) (j)	Extension cords used with portable electric tools shall be of three wire type and designed for hard or extra hard usage.	x			
1926.105 (a)	Workplaces more than 25 feet above the ground or water shall have safety nets when ladder, safety line/belts, temporary floors, scaffolds, catch platform are not practical.			х	
1926.1051 (a)	Stairway or ladder shall be provided at all access points where there is a break in elevation of 19 inches or more.			х	
1926.451 (a)	Scaffolding footing or anchorage shall be sound, rigid and capable of carrying the maximum intended load.	x			
1926.500 (c) (1) (old standard)	Wall opening shall be guarded.			x	*
1926.404 (f)	Electrical equipment connected by cord and plug shall be grounded except if there is an isolating transformer or the tool is double insulated.	x			
1926.556 (b)	When working from an aerial lift, a full body harness and lanyard attached to the boom or basket.	x			
1926.501 (b) (1) (new standard)	Guardrails, safety nets or personal fall arrest system shall be used at 6 feet or more.			х	
1926.451 (a) (14)	Scaffold planking shall extend over their end support not less than 6 inches and not more than 12 inches.			х	
1926.602 (a) (9)	Bi-directional earth moving equipment shall have audible alarms.	x		30	-

		In Compliance	Out of Compliance	N/A	Corrective Action Taken and
Standard	Title				Date
1926.451 (a) (3)	Scaffolding shall be erected, moved, dismantled or altered under the supervision of a competent person.			x	
1926.550 (b) (2)	Cranes, crawler, truck or locomotive, shall meet the design, testing, maintenance, and operation per ANSI B30.5_1968. The most recent certification shall be on file until a new one is prepared.			х	

Exclusion zone not active today.

Newman began excavating for vaults near the west gate. They stopped once native material was uncovered along the bottom and east side of the hole. Decided to wait until tomorrow to use a dump truck to haul native material over to the EZ. They also back filled and compacted over conduit along the south fence.

CVE fabricators poured FTB over conduit between switch gear and transformers.

CVE line crews continued working on ground grid and structure componentry.

CVE electricians continued working on control cable placement and connections.

Weather was hot and dry with slight breezes and temperatures in the high 80s.





3RD WEST SUBSTATION REMEDIATION PROJECT **HEALTH SAFETY MANAGER (HSM)**

	1	DAILY CHECKLIST
DA	TE:	04/25/11
	General	
		c area Health and Safety Inspection
	NA ·	Review and if necessary update Activity Hazard Analyses (AHA) based on planned site
	1421	activities for the day
	Ø	Safety Planning or "Tailgate" mandatory meeting for all employees and contractors prior to commencement of any site work. Instruction, review hazards, health & safety issues and any modifications to the CSHASP
	NA	Site hazard and safety instruction for all first time employees, contractors or visitors
	NA	Complete Employee Meeting Record Form B (where applicable)
	NA	Document required Respirator Training completion with Form H
NA		Record times and numbers of dump trucks and trailers as they leave the site with contaminated material.
NA		Confirm return of waste material manifest documents for each load with site manager.
NA	Com NA NA NA NA NA ☑	plete all CSHASP Forms (for applicable activities planned for that day) Illness/Injury Report Form A Site-Specific Training Record Form C Hot Work Permit Form D Trench/Evacuation Permit Form E Combined Space Entry Permit From F Exclusion zone operations are practiced as instructed.
		☐ Decontamination unit is working properly.
		✓ Workers are using decontamination unit as instructed.
		✓ Workers use personal protective equipment properly.
	☑	Set air samples at cardinal compass points around exclusion zone. Check throughout the day to ensure proper operation. Observe control measures for dust and fugitive materials i.e. watering excavation
	[. 7	sites and track out prevention
	☑ ☑	Review sign-in/sign-out log throughout and at the end of the workday. Secure the site at the end of the workday
	<u>Samplir</u>	ng .
NA ☑	Soil	Confirmation sampling for any newly excavated areas Stationary Air Monitoring during contaminated soil removal around the perimeter of the exclusion zone
	NA	Personal Breathing Zone Monitoring on personnel conducting contaminated dust and soil removal
	NA	Digitally photograph each sample location and at any place field sampling personnel





	Electronically file photo files into the on-site database
$\overline{\mathbf{V}}$	Complete Field Documentation
	Field Sample Data Sheets (FSDS)
	Logbook
	On-site computer database
$\overline{\mathbf{A}}$	Label each sample media with a unique number
$\overline{\mathbf{Q}}$	Seal sample(s) in zip lock plastic bags
Ø	Complete and include Chain of Custody (COC) Form required for shipping of samples to appropriate laboratory
Ø	Package samples for transport IAW SOP 2-1, Packaging and Shipping of Environmental Samples
	Review and disseminate sample results as received from the laboratories to Project Manager and other appropriate managers and employees
	Electronically file sample reports into on-site database



Project: 3rd West Sub Station	Date: 04/25/12
Location: 3rd West, 1st South, SLC	Job Number:
Survey Conducted By:	Title:

		In Compliance	Out of Compliance	N/A	Corrective Action Taken and
Standard	Title				Date
1926.59	Hazard Communication Program, List of Chemicals, Training, MSDSs.			x	
1926.500 (b) & (d) (old standard)	Guardrails on open sided floors, floor holes and runways.			x	
1926.404 (b)	Ground fault circuit interrupters or an assured equipment grounding conductor program in use.	х			
1926.451 (b)	The employer shall instruct each employee in the recognition and avoidance of unsafe conditions.			х	
1926.451 (d)	Tubular welded scaffolds shall be properly braced so that they are plumb, square and rigid; legs on plumb, adjustable, mud sills, etc. to support the maximum load; guardrails and toe boards shall be installed.			х	
1926.100 (a)	Head protection, where there is a possible danger of head injury.	x			

		In Compliance	Out of Compliance	N/A	Corrective Action Taken and
Standard	Title				Date
1926.652 (a) (1)	Excavation protective systems; examination by competent person when less than 5 feet in depth.			х	
1926.20 (b) (2)	Employer responsibility to initiate and maintain safety and health programs.			х	
1926.20 (b)	Employer responsibility to provide for frequent and regular inspections by designated competent persons.		,	x	
1926.451 (e)	Manually propelled scaffolds shall have tight planking for the full width, platforms secured, ladder or stairway provided, suitable footing, stand plumbs, wheels locked, guardrails and toe boards.			x	
1926.1052 (c) (1)	Stair rail and handrail along each unprotected edge.			x	
1926.25 (a)	Debris, scrap lumber with protruding nails, not cleared for work areas, stairs and around structures.			x	¥
1926.50	First aid shall be available in the absence of an infirmary, or other that is reasonably accessible; first aid supplies shall be accessible and telephone numbers posted.	х			
1926.451 (a) (13)	Scaffolding safe access not provided by ladder or equivalent.			x	
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1926.405 (b)	Electrical boxes, fittings shall have covers, faceplates or canopy and holes shall be smooth where cords pass through; and unused openings in cabinets/boxes shall be closed.	x			
1926.701 (b)	Reinforcing steel onto which employees could fall shall be guarded.			x	
1926.1053 (b)	Portable ladder side rails extend at least 3 feet or be secured at top.			x	
1926.651 (j) (2)	Excavations shall have materials or equipment placed at least 2 feet from the edge.			X	
1926.651 (c) (2)	Excavations shall have a safe means of egress such as ladders, ramps, etc.	x		*	
1926.150 (c) (1)	Portable fire fighting equipment shall be provided and extinguishers shall be inspected periodically.	x			
1926.102 (a) (1)	Eye and face protection shall be provided.	х			,
1926.300 (b) (2)	Guards for power tools shall be used and moving parts of equipment shall be guarded.	х	-		
1926.350 (a) (9)	Oxygen cylinders in storage shall be separated from fuel gas cylinders by at least 20 feet or a ½ fire resistance barrier.			х	
1926.405 (a) (2) (ii) (e) & (f)	Temporary lights shall be protected from breakage, not suspended by their cords and extension cord.			Х	I

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1926.1051 (a)	Stairway or ladder shall be provided at all access points where there is a break in elevation of 19 inches or more.			х	
1926.451 (a)	Scaffolding footing or anchorage shall be sound, rigid and capable of carrying the maximum intended load.	х			
1926.500 (c) (1) (old standard)	Wall opening shall be guarded.			x	
1926.404 (f)	Electrical equipment connected by cord and plug shall be grounded except if there is an isolating transformer or the tool is double insulated.	х			
1926.556 (b)	When working from an aerial lift, a full body harness and lanyard attached to the boom or basket.	x			
1926.501 (b) (1) (new standard)	Guardrails, safety nets or personal fall arrest system shall be used at 6 feet or more.	-		x	
1926.451 (a) (14)	Scaffold planking shall extend over their end support not less than 6 inches and not more than 12 inches.			х	
1926.602 (a) (9)	Bi-directional earth moving equipment shall have audible alarms.	x			

		In Compliance	Out of Compliance	N/A	Corrective Action Taken and
Standard	Title				Date
1926.451 (a) (3)	Scaffolding shall be erected, moved, dismantled or altered under the supervision of a competent person.			x	
1926.550 (b)	Cranes, crawler, truck or locomotive, shall meet the design, testing, maintenance, and operation per ANSI B30.5_1968. The most recent certification shall be on file until a new one is prepared.			х	

Exclusion zone not active today.

Newman finished excavation for 12 kV vaults near the east gate. 4 dump truck loads of mixed material containing native soil were removed to the stockpile in the EZ. Vaults were placed and clean fill was used to cover exposed native soil. They continued excavation for conduits and spread footings near the S.W corner of the switch gear building. R&R encouraged the Newman in the continued application of water throughout the yard as weather conditions have become hot and dry.

CVE fabricators not on site today.

CVE line crew continued working on ground grid and attaching equipment to structure steel.

CVE electricians continued working on placing and connecting control cables.

Weather was overcast and humid with moderate south winds and temperatures in the mid 70's.





3RD WEST SUBSTATION REMEDIATION PROJECT

HEALTH SAFETY MANAGER (HSM)

		<u>DAILY CHECKLIST</u>
DATE	:	04/26/11
Ge	neral	
		rea Health and Safety Inspection
NA		Review and if necessary update Activity Hazard Analyses (AHA) based on planned site
		activities for the day
NA	\	Safety Planning or "Tailgate" mandatory meeting for all employees and contractors prior to commencement of any site work. Instruction, review hazards, health & safety issues and any modifications to the CSHASP
NA		Site hazard and safety instruction for all first time employees, contractors or visitors
NA		Complete Employee Meeting Record Form B (where applicable)
NA		Document required Respirator Training completion with Form H
NA		Record times and numbers of dump trucks and trailers as they leave the site with contaminated material.
NA		Confirm return of waste material manifest documents for each load with site manager.
NA		ete all CSHASP Forms (for applicable activities planned for that day)
	NA	Illness/Injury Report Form A
	NA	Site-Specific Training Record Form C
	NA	Hot Work Permit Form D
	NA	Trench/Evacuation Permit Form E
	NA	Combined Space Entry Permit From F
	$\overline{\mathbf{A}}$	Exclusion zone operations are practiced as instructed.
		☐ Decontamination unit is working properly.
		☑ Workers are using decontamination unit as instructed.
		☑ Workers use personal protective equipment properly.
☑		Set air samples at cardinal compass points around exclusion zone. Check
		throughout the day to ensure proper operation.
		Observe control measures for dust and fugitive materials i.e. watering excavation sites and track out prevention.
		Review sign-in/sign-out log throughout and at the end of the workday.
☑		Secure the site at the end of the workday
<u>Sa</u>	<u>mpling</u>	
NA	Soil Co	onfirmation sampling for any newly excavated areas
	5011 C	Stationary Air Monitoring during contaminated soil removal around the perimeter of the exclusion zone
NA	A	Personal Breathing Zone Monitoring on personnel conducting contaminated dust and soil
NA	A	removal Digitally photograph each sample location and at any place field sampling personnel determined necessary





\square	Electronically file photo files into the on-site database
	Complete Field Documentation
	Field Sample Data Sheets (FSDS)
	Logbook
	On-site computer database
Ø	Label each sample media with a unique number
	Seal sample(s) in zip lock plastic bags
☑	Complete and include Chain of Custody (COC) Form required for shipping of samples to appropriate laboratory
☑	Package samples for transport IAW SOP 2-1, Packaging and Shipping of Environmental Samples
	Review and disseminate sample results as received from the laboratories to Project
	Manager and other appropriate managers and employees
	Electronically file sample reports into on-site database



Project: 3rd West Sub Station	Date: 04/26/12
Location: 3rd West, 1st South, SLC	Job Number:
Survey Conducted By:	Title:

		In Compliance	Out of Compliance	N/A	Corrective Action Taken and
Standard	Title				Date
1926.59	Hazard Communication Program, List of Chemicals, Training, MSDSs.			x	
1926.500 (b) & (d) (old standard)	Guardrails on open sided floors, floor holes and runways.			х	
1926.404 (b)	Ground fault circuit interrupters or an assured equipment grounding conductor program in use.	х			
1926.451 (b)	The employer shall instruct each employee in the recognition and avoidance of unsafe conditions.			х	
1926.451 (d)	Tubular welded scaffolds shall be properly braced so that they are plumb, square and rigid; legs on plumb, adjustable, mud sills, etc. to support the maximum load; guardrails and toe boards shall be installed.			x	
1926.100 (a)	Head protection, where there is a possible danger of head injury.	x			

Standard	Title	In Compliance	Out of Compliance	D N/A	Corrective Action Taken and Date
1926.652 (a) (1)	Excavation protective systems; examination by competent person when less than 5 feet in depth.			x	
1926.20 (b) (2)	Employer responsibility to initiate and maintain safety and health programs.			х	
1926.20 (b)	Employer responsibility to provide for frequent and regular inspections by designated competent persons.			х	
1926.451 (e)	Manually propelled scaffolds shall have tight planking for the full width, platforms secured, ladder or stairway provided, suitable footing, stand plumbs, wheels locked, guardrails and toe boards.			х	
1926.1052 (c) (1)	Stair rail and handrail along each unprotected edge.			х	
1926.25 (a)	Debris, scrap lumber with protruding nails, not cleared for work areas, stairs and around structures.			х	
1926.50	First aid shall be available in the absence of an infirmary, or other that is reasonably accessible; first aid supplies shall be accessible and telephone numbers posted.	x			
1926.451 (a) (13)	Scaffolding safe access not provided by ladder or equivalent.			x	
1926.651 (k) (1)	Excavations, protective systems, inspected daily by a competent person and as needed.			х	-
1926.403 (b) (2)	Employer shall ensure electrical equipment is free from recognized hazards, is suitable, used in accordance with the listing, labeling or certification.	х			

		In Compliance	Out of Compliance	N/A	Corrective Action Taken and
Standard	Title				Date
1926.451 (a)	Scaffolding shall have guardrails and toe boards when more than 10 feet high and when less than 45 inches of work space.			х	
1926.405 (g) (2)	Flexible cords shall be used without splice or tap; strain relief shall be provided.			х	
1926.405 (b)	Electrical boxes, fittings shall have covers, faceplates or canopy and holes shall be smooth where cords pass through; and unused openings in cabinets/boxes shall be closed.	x			
1926.701 (b)	Reinforcing steel onto which employees could fall shall be guarded.			x	
1926.1053 (b) (1)	Portable ladder side rails extend at least 3 feet or be secured at top.			x	
1926.651 (j) (2)	Excavations shall have materials or equipment placed at least 2 feet from the edge.			х	
1926.651 (c) (2)	Excavations shall have a safe means of egress such as ladders, ramps, etc.	х			
1926.150 (c) (1)	Portable fire fighting equipment shall be provided and extinguishers shall be inspected periodically.	х			
1926.102 (a) (1)	Eye and face protection shall be provided.	x			
1926.300 (b) (2)	Guards for power tools shall be used and moving parts of equipment shall be guarded.	x			
1926.350 (a)	Oxygen cylinders in storage shall be separated from fuel gas cylinders by at least 20 feet or a ½ fire resistance barrier.			х	
1926.405 (a) (2) (ii) (e) & (f)	Temporary lights shall be protected from breakage, not suspended by their cords and extension cord.			Х	

		In Compliance	Out of Compliance	N/A	Corrective Action Taken and		
Standard	Title				Date		
1926.405 (a) (2) (ii) (j)	Extension cords used with portable electric tools shall be of three wire type and designed for hard or extra hard usage.	x					
1926.105 (a)	Workplaces more than 25 feet above the ground or water shall have safety nets when ladder, safety line/belts, temporary floors, scaffolds, catch platform are not practical.			х			
1926.1051 (a)	Stairway or ladder shall be provided at all access points where there is a break in elevation of 19 inches or more.			х			
1926.451 (a)	Scaffolding footing or anchorage shall be sound, rigid and capable of carrying the maximum intended load.	x					
1926.500 (c) (1) (old standard)	Wall opening shall be guarded.			х			
1926.404 (f)	Electrical equipment connected by cord and plug shall be grounded except if there is an isolating transformer or the tool is double insulated.	x					
1926.556 (b)	When working from an aerial lift, a full body harness and lanyard attached to the boom or basket.	х					
1926.501 (b) (1) (new standard)	Guardrails, safety nets or personal fall arrest system shall be used at 6 feet or more.			х			
1926.451 (a) (14)	Scaffold planking shall extend over their end support not less than 6 inches and not more than 12 inches.			х			
1926.602 (a)	Bi-directional earth moving equipment shall have audible alarms.	x					

		In Compliance	Out of Compliance	N/A	Corrective Action Taken and
Standard	Title				Date
1926.451 (a) (3)	Scaffolding shall be erected, moved, dismantled or altered under the supervision of a competent person.			х	
1926.550 (b) (2)	Cranes, crawler, truck or locomotive, shall meet the design, testing, maintenance, and operation per ANSI B30.5_1968. The most recent certification shall be on file until a new one is prepared.			x	

Exclusion zone inactive today.

Newman continued excavation of 12.5 kV conduit trench along east side of yard near the gate and worked on assembling conduit pipe. They also continued excavation for spread footings between switch gear and transformer in bay 2. This uncovered native soil temporarily that was covered with clean fill in the afternoon. They also began back filling and compaction around the west end of the switch gear.

CVE fabricators not on site today.

CVE line crew continued working on ground grid and connections for the center phase.

CVE electricians continued working on control cables.

Wasatch electric continued working on solving issues with pulling cable to the risers.

Weather was overcast, warm, and breezy with temperatures in the low 70's and no precipitation.





3RD WEST SUBSTATION REMEDIATION PROJECT **HEALTH SAFETY MANAGER (HSM)**

	DAILY CHECKLIST
DATE:	04/27/11
General	
NA Work	area Health and Safety Inspection
NA	Review and if necessary update Activity Hazard Analyses (AHA) based on planned site
	activities for the day
NA	Safety Planning or "Tailgate" mandatory meeting for all employees and contractors prior to commencement of any site work. Instruction, review hazards, health & safety issues and any modifications to the CSHASP
NA	Site hazard and safety instruction for all first time employees, contractors or visitors
NA	Complete Employee Meeting Record Form B (where applicable)
NA	Document required Respirator Training completion with Form H
NA	Record times and numbers of dump trucks and trailers as they leave the site with contaminated material.
NA	Confirm return of waste material manifest documents for each load with site manager.
NA Comp	lete all CSHASP Forms (for applicable activities planned for that day)
NA .	Illness/Injury Report Form A
NA	Site-Specific Training Record Form C
, NA	Hot Work Permit Form D
. NA	Trench/Evacuation Permit Form E
NA	Combined Space Entry Permit From F
☑	Exclusion zone operations are practiced as instructed.
	☐ Decontamination unit is working properly.
	✓ Workers are using decontamination unit as instructed.
	☑ Workers use personal protective equipment properly.
\square	Set air samples at cardinal compass points around exclusion zone. Check
	throughout the day to ensure proper operation.
	Observe control measures for dust and fugitive materials i.e. watering excavation sites and track out prevention.
☑ ☑	Review sign-in/sign-out log throughout and at the end of the workday. Secure the site at the end of the workday
Sampling	
NA Soil (☑	Confirmation sampling for any newly excavated areas Stationary Air Monitoring during contaminated soil removal around the perimeter of the exclusion zone
NA	Personal Breathing Zone Monitoring on personnel conducting contaminated dust and soil removal
NA	Digitally photograph each sample location and at any place field sampling personnel determined necessary





☑		Electronically file photo files into the on-site database
☑		Complete Field Documentation
	\square	Field Sample Data Sheets (FSDS)
	$\overline{\mathbf{Q}}$	Logbook
	\square	On-site computer database
abla		Label each sample media with a unique number
abla		Seal sample(s) in zip lock plastic bags
☑		Complete and include Chain of Custody (COC) Form required for shipping of samples to appropriate laboratory
☑		Package samples for transport IAW SOP 2-1, Packaging and Shipping of Environmental Samples
☑		Review and disseminate sample results as received from the laboratories to Project Manager and other appropriate managers and employees
		Electronically file sample reports into on-site database



Project: 3rd West Sub Station	Date: 04/27/12
Location: 3rd West, 1st South, SLC	Job Number:
Survey Conducted By: Justin Kargis	Title:

		In Compliance	Out of Compliance	N/A	Corrective Action Taken and
Standard	Title				Date
1926.59	Hazard Communication Program, List of Chemicals, Training, MSDSs.			x	4
1926.500 (b) & (d) (old standard)	Guardrails on open sided floors, floor holes and runways.			х	
1926.404 (b)	Ground fault circuit interrupters or an assured equipment grounding conductor program in use.	x			
1926.451 (b)	The employer shall instruct each employee in the recognition and avoidance of unsafe conditions.	5	¥.	х	
1926.451 (d)	Tubular welded scaffolds shall be properly braced so that they are plumb, square and rigid; legs on plumb, adjustable, mud sills, etc. to support the maximum load; guardrails and toe boards shall be installed.			х	
1926.100 (a)	Head protection, where there is a possible danger of head injury.	x			

		In Compliance	Out of Compliance	N/A	Corrective Action Taken and
Standard	Title				Date
1926.652 (a)	Excavation protective systems; examination by competent person when less than 5 feet in depth.			х	,
1926.20 (b) (2)	Employer responsibility to initiate and maintain safety and health programs.			x	
1926.20 (b)	Employer responsibility to provide for frequent and regular inspections by designated competent persons.			x .	
1926.451 (e)	Manually propelled scaffolds shall have tight planking for the full width, platforms secured, ladder or stairway provided, suitable footing, stand plumbs, wheels locked, guardrails and toe boards.			x	
1926.1052 (c) (1)	Stair rail and handrail along each unprotected edge.			x	
1926.25 (a)	Debris, scrap lumber with protruding nails, not cleared for work areas, stairs and around structures.			х	
1926.50	First aid shall be available in the absence of an infirmary, or other that is reasonably accessible; first aid supplies shall be accessible and telephone numbers posted.	х			v
1926.451 (a) (13)	Scaffolding safe access not provided by ladder or equivalent.			x	
1926.651 (k) (1)	Excavations, protective systems, inspected daily by a competent person and as needed.			x	
1926.403 (b) (2)	Employer shall ensure electrical equipment is free from recognized hazards, is suitable, used in accordance with the listing, labeling or certification.	х			

		In Compliance	Out of Compliance	N/A	Corrective Action Taken and
Standard	Title				Date
1926.451 (a)	Scaffolding shall have guardrails and toe boards when more than 10 feet high and when less than 45 inches of work space.			х	
1926.405 (g) (2)	Flexible cords shall be used without splice or tap; strain relief shall be provided.	4		х	
1926.405 (b)	Electrical boxes, fittings shall have covers, faceplates or canopy and holes shall be smooth where cords pass through; and unused openings in cabinets/boxes shall be closed.	х	9		
1926.701 (b)	Reinforcing steel onto which employees could fall shall be guarded.			х	
1926.1053 (b) (1)	Portable ladder side rails extend at least 3 feet or be secured at top.			х	
1926.651 (j) (2)	Excavations shall have materials or equipment placed at least 2 feet from the edge.			х	
1926.651 (c) (2)	Excavations shall have a safe means of egress such as ladders, ramps, etc.	х			
1926.150 (c) (1)	Portable fire fighting equipment shall be provided and extinguishers shall be inspected periodically.	x			
1926.102 (a) (1)	Eye and face protection shall be provided.	х			
1926.300 (b) (2)	Guards for power tools shall be used and moving parts of equipment shall be guarded.	х			,
1926.350 (a)	Oxygen cylinders in storage shall be separated from fuel gas cylinders by at least 20 feet or a ½ fire resistance barrier.			х	
1926.405 (a) (2) (ii) (e) & (f)	Temporary lights shall be protected from breakage, not suspended by their cords and extension cord.			Х	

Standard	Title	In Compliance	Out of Compliance	N/A	Corrective Action Taken and Date
1926.105 (a)	Workplaces more than 25 feet above the ground or water shall have safety nets when ladder, safety line/belts, temporary floors, scaffolds, catch platform are not practical.			x	
1926.1051 (a)	Stairway or ladder shall be provided at all access points where there is a break in elevation of 19 inches or more.			х	
1926.451 (a)	Scaffolding footing or anchorage shall be sound, rigid and capable of carrying the maximum intended load.	х			
1926.500 (c) (1) (old standard)	Wall opening shall be guarded.			х	
1926.404 (f) (7)	Electrical equipment connected by cord and plug shall be grounded except if there is an isolating transformer or the tool is double insulated.	x			
1926.556 (b) (2)	When working from an aerial lift, a full body harness and lanyard attached to the boom or basket.	x			
1926.501 (b) (1) (new standard)	Guardrails, safety nets or personal fall arrest system shall be used at 6 feet or more.			x	*
1926.451 (a) (14)	Scaffold planking shall extend over their end support not less than 6 inches and not more than 12 inches.			х	
1926.602 (a) (9)	Bi-directional earth moving equipment shall have audible alarms.	х			

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		In Compliance	Out of Compliance	N/A	Corrective Action Taken and
Standard	Title				Date
1926.451 (a)	Scaffolding shall be erected, moved, dismantled or altered under the supervision of a competent person.			x	
1926.550 (b) (2)	Cranes, crawler, truck or locomotive, shall meet the design, testing, maintenance, and operation per ANSI B30.5_1968. The most recent certification shall be on file until a new one is prepared.			х	

Exclusion zone inactive today.

Heavy overnight rains had soaked the area leaving some water collection within the yard. Drainage appeared to be adequate.

Newman finished assembling 12.5 kV conduit into vaults near the east gate. They performed equipment maintenance throughout the rest of the day.

CVE fabricators poured FTB over conduit going into vaults near east gate.

CVE line crew continued working on structure steel componentry.

CVE had only one electrician on site working on control connections.

Wasatch electric continued working on issues with pulling cable.

Weather was cool, mostly cloudy and breezy with temperatures in the low 50's.



РНОТО 1



РНОТО 2



РНОТО 3



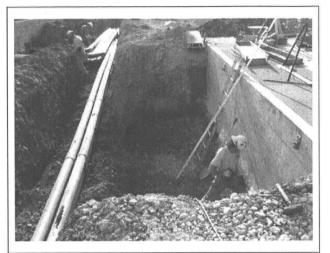
РНОТО 4

PROJECT NO:

DESIGNED BY:	SCALE:	REVIEWED BY: DCR	
DRAWN BY: JMK	DATE 04/23/12	FILE:	le

SITE PHOTOGRAPHS





РНОТО 1



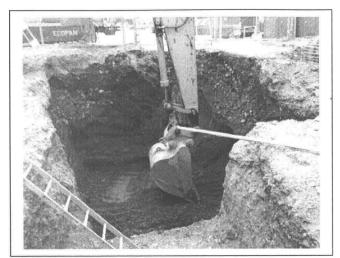
РНОТО 2

PROJECT NO:

DESIGNED BY:	SCALE:	REVIEWED BY:	
DRAWN BY: JMK	DATE 04/24/12	FILE:	

SITE PHOTOGRAPHS

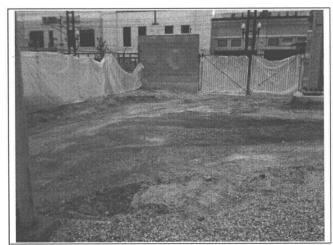




РНОТО 1



РНОТО 2



РНОТО 3



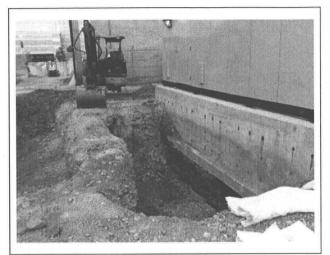
РНОТО 4

PROJECT NO:

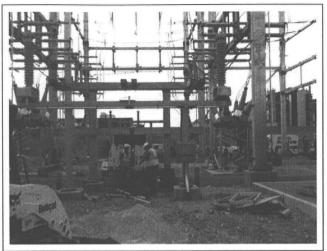
DESIGNED BY:	SCALE:	DCR	
DRAWN BY: JMK	DATE 04/25/12	FILE:	

SITE PHOTOGRAPHS





РНОТО 1



РНОТО 2



РНОТО 3

PROJECT NO:

DESIGNED BY:	SCALE:	REVIEWED BY: DCR	
DRAWN BY: JMK	DATE 04/26/12	FILE:	

SITE PHOTOGRAPHS

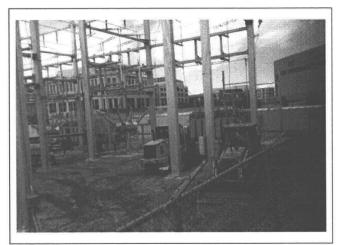




РНОТО 1



РНОТО 2



РНОТО 3

PROJECT NO:

DESIGNED BY:	SCALE:	REVIEWED BY: DCR
DRAWN BY: JMK	DATE 04/27/12	FILE:

SITE PHOTOGRAPHS



PACIFICORP OPERATIONS - Field Construction Representative Daily Log

PROJECT NAME:	Third West Sub - Rebuild		DATE :	Mond	lay, Ap ril 23, 2	2012
PO & Work Order NO. :	3000078050 / 10	0035803	MAIN CONTR	RACTOR:	Cache Valle	y Electric
Crew Start Time:	5:50	Crew Stop Time:	18:40		Tot Hrs mns:	11:50
	3:35	FCR Stop Time:	18:45	 -	Tot Hrs mns:	12:10
Use military time format 00:00		· Or Otop mior			-	12.10
occ minary time primar oc.oc						
WEATHER CONDITIONS:		Sunny, 65 degre	es in AM - 85 de	egrees in P	М	
DESCRIPTION: (work performe						
running from Vaults #9 and #10 to the Xfmr #2 and are removing the 4" of co switchgear building and transformer # on grounding, prepping the brackets for the Capacitor Banks and east to vault completed testing the CCVT's for the the control building to the switchgear replacement CT terminal block from H 3, Newman = 5, Emerson = 2, KT Ser	SW corner of the 46 ncrete they poured to 1 and pulling cables in or hanging the 138 kVs #7 and #8. They mo Gadsby line and work RMP Comm to terming yundai, delivered by levices = 4, R&R = 1, Vs	kV yard. They started a set their forms on. Con between the control by cables. Newman played some ABC from the don the east half of the their control by the	working on forms by Electrical Crew building and the sw ced conduits for the east side of the he switchgear. KT until RMP Rel	for the 4-N for is terminating itchgear. Contended to the services raise for the services rains ay returned for the services rains ay returned for its terminal for the services rains and the services rains are the services for the services rains and the services rains are the services are services and the services rains are services and the services rains are services and the services are services are services and the services are services are services are services are services are services and the services are services.	dns on the northing wires in the YVE Line Crew is the banks running south side. En in innerduct and from dinner. Re	n side of TC in the s working west to nerson I fiber from eceived
IF WORKING IN ENERGIZED SU						
Dispatcher login, name and time:	Al Swinski 0635					
Dispatcher logout, name and time:	??????? 1840					
DISCREPANCIES:			IMMEDIATE CO	RECTIVI	E ACTION TA	KEN:
l						j
			-			
	<u> </u>				_	
3/23 - Still waiting for the second CT termi	nal block from Hyundai		Received CT terminal block from Ken Foster			
4/21 - Identified a dimension issue on the	PASCOR ground switch	control arm. (22' vs 25')	(i) Sent e-mail to Roger F/ Mike Shepherd			
DELAYS OR LOST TIME ENCOU		<u> </u>		·· 		
DELATO ON LOOT TIME ENGOG	MILICED.					
1						
	•					
	•					
EQUIPMENT (working, delivered	i, idle):					
CVE fab crew: Portable toilet (3), forklift,	dumpster, office trailer	, conex , exclusion zone	conex, (2), tool traile	r, crew truck.	CVE Line Crew:	Pickup (2),
JLG (2), tool trailer. Newman: trachoe (2)						
1						
•						
OSHA Recordable Safety Incide	nts:			Reported t	ov:	Time:
			1	1	'	
·		·				
			•		1	

Rocky Mountain Power

Russ Johnson

Field Construction Representative

PACIFICORP OPERATIONS - Field Construction Representative Daily Log

PROJECT NAME:	Third Wes	st Sub - Rebuild	DATE: Tues	day, April 24, 2	012		
PO & Work Order NO. :	3000078050 / 10035803		MAIN CONTRACTOR:	Cache Valley	Electric		
Crew Start Time:	6:55	Crew Stop Time:	17:35	Tot Hrs mns:	10:40		
FCR Start Time:	6:39	FCR Stop Time:	17:48	Tot Hrs mns:	11:09		
Use military time format 00:00		. 5.(5.5)					
openiment, time remarks on or				-			
WEATHER CONDITIONS:	. —	Sunny, 58 degree	s in AM - 85 degrees in F	PM			
DESCRIPTION: (work perfo							
of the switchgear. CVE Electrica throwover switches. CVE Line of from the transformers to the swit #8, and placed ABC over the 12 the May 7 charging and will be befiber in the control building. CVI = 4, R&R = 1, Wilding =1.	Crew connected the character. Newman kV ductbank runninack on 4/30 to com	e circuit breaker and switch jump extended the 6" conduits toward ng along the south fence line. E uplete the rest of the work, appro	ers and mobed materials for I vaults #7 and #8, started ex Emerson completed all of the ximately two day. KT Service	r the bundled 250 ccavating for vaule testing that is rec ses pulled innerdu	0 jumpers ts #7 and quired for ct and		
-							
IF WORKING IN ENERGIZE							
Dispatcher login, name and time							
Dispatcher logout, name and time	ne: Barry Nielso						
DISCREPANCIES:			MMEDIATE CORRECTIV	E ACTION TAP	(EN:		
	 						
3/23 - Still waiting for the second CT	Terminal block from	Hwundai	Confirmed with Ken foster on 3/2	22 that PMP has no	t received		
orzo - oun waiting for the second of	terrina block from		this Vet.				
4/21 - Identified a dimension issue of	on the PASCOR group	nd switch control amı. (22' vs 25') S	5') Sent e-mail to Roger F/ Mike Shepherd				
DEL AVO OD LOCT TIME EN	IOOUNITEDED.						
DELAYS OR LOST TIME EN	COUNTERED:			-			
EQUIPMENT (working, delicated to the control of the	orklift, 1 dumpster, offi noe (2), loader, bobca		backhoe.				
OSHA Recordable Safety In	ncidents:	· · · · · · · · · · · · · · · · · · ·	Reported	by: T	ime:		
L							
				•			

Rocky Mountain Power

Russ Johnson

Field Construction Representative

PACIFICORP OPERATIONS - Field Construction Representative Daily Log PROJECT NAME: Wednesday, April 25, 2012 Third West Sub - Rebuild DATE: PO & Work Order NO.: 3000078050 / 10035803 MAIN CONTRACTOR: Cache Valley Electric Crew Start Time: 6:55 Crew Stop Time: 18:05 Tot Hrs mns: 11:10 18:15 Tot Hrs mns: 11:31 FCR Start Time: FCR Stop Time: 6 44 Use military time format 00:00 **WEATHER CONDITIONS:** Sunny, 58 degrees in AM - 80 degrees in PM DESCRIPTION: (work performed, general comments, instructions to contractor, # of crew members onsite.) R&R set up four monitors. CVE Fab Crew was not on site today. CVE Electrical Crew backfilled conduits at transfer switches, terminated in the switchgear and transformer #1. CVE Line Crew pulled string into the 12 kV cubides on the switchgear from the vaults and mobed materials and equipment to the site for the bundled 2500 jumpers to the switchgear. Newman set vaults #7 and #8, temporarily backfilled around vaults and the 12 kV duct banks between the transformers and switchgear. They demobed the trench box from the parking lot. They completed backfill and compaction along the west half of the south 12 kV duct bank. Emerson was not on site today but will return on Monday, April 30. Ken Foster dropped off the Hyundai CT tenninal block for Xfmr #2 and STR came by in the PM and installed same. CVE Line Crew = 4. CVE Fab Crew = 0. CVE Electrical Crew = 3, Newman = 5, Emerson = 0, STR = 3, R&R = 1, Wilding =1. IF WORKING IN ENERGIZED SUBSTATION: Dispatcher login, name and time: Al Swinski 0644 Dispatcher logout, name and time: Al Swinski 1815 DISCREPANCIES: IMMEDIATE CORRECTIVE ACTION TAKEN: 3/23 - Still waiting for the second CT terminal block from Hyundai Ken delivered and STR installed replacement CT terminal block in Xfmr #1 4/21 - Identified a dimension issue on the PASCOR ground switch control arm. (22' vs 25') Sent e-mail to Roger F/ Mike Shepherd DELAYS OR LOST TIME ENCOUNTERED: EQUIPMENT (working, delivered, idle):

CVE fab crew: Portable tojlet (3), forklift, 1 dumpster, office trailer, conex, exclusion zone conex, (2), tool trailer, crew truck. CVE Line Crew: Pickup (2), JLG (2), tool trailer. Newman: trachoe (2), loader, bobcat, mini-ex, water truck, compactor, backhoe.

OSHA Recordable Safety Incidents: Reported by: Time:

Rocky Mountain Power

Russ Johnson

Field Construction Representative

PACIFICORP OPERATIONS - Field Construction Representative Daily Log

PROJECT NAME:	Third West	Sub - Rebuild	DATE : Thur	sday, A p ri l 26, :	2012			
PO & Work Order NO. :	300007805	50 / 10035803	MAIN CONTRACTOR:	Cache Valle	y Electric			
Crew Start Time:	6:55	6:55 Crew Stop Time:		Tot Hrs mns:	10:40			
FCR Start Time:	6:45	FCR Stop Time:	18:05	Tot Hrs mns:	11:20			
Use military time format 00:00		_	· · · · · · · · · · · · · · · · · · ·					
•		•						
WEATHER CONDITIONS:	DITIONS: Partly Cloudy/Sunny - 55 degrees in AM, 70 degrees in PM							
DESCRIPTION: (work perfo								
R&R set up four monitors. I sper scans of the conduits to determin with the camera that the connecti Southwire has concems about pu CVE Fab Crew was not on site to and the control building. CVE Lir issue between the jumpers and the ends and add a 90 degree alumin Newman excavated for the balanty and 8 and part way north into the was on site today drilling holes in Emerson = 0, Miller = 1, R&R =	ne why the mandril with the conductor of	rould not go through the conduct bore pipe, outside the vaults with the sharp/rough edges. So I Crew pulled station service Are jumpers to the center bushing the ABS. It will be necessary mobed equipment to the site for unning between vaults 7/8 and Its 7 and 8. Emerson was not	its. Determined after visuall on 400 West, will not allow t cott Collard talked to Mike S C conductors and control cag on the four circuit breakers to rebuild the jumpers with ror the station service and for 9/10. The ran the conduits on site today but will return	y inspecting the the mandril to passible pherd about of the between the secause of a classible bird guarding into the west side on Monday, April	conduits ss. cur options. switchgear learance s on both g. es of vaults il 30. M iller			
IF WORKING IN ENERGIZED								
Dispatcher login, name and time:								
Dispatcher logout, name and time	e: Al Swinski 18							
DISCREPANCIES:	· · · · · · · · · · · · · · · · · · ·		MMEDIATE CORRECTIV	/E ACTION TA	KEN:			
								
		,						
-								
4/21 - Identified a dimension issue of	n the PASCOR ground		PASCOR is sending 3' extension tere on Friday.	ns and couplers, sl	hould be			
DELAYS OR LOST TIME EN	COUNTERED:		icie offi fluay.	•				
Issues with being able to pull mandre	el through the 6" condu	uits between the 400 West vaults a	and the substation.					
EQUIPMENT (working, deliv	/ered. idle):							
CVE fab crew: Portable toilet (3), fol JLG (2), tool trailer: Newman: trach	rklift, 1 dumpster, office			. CVE Line Crew:	Pickup (2),			
OSHA Pacardahla Safatu In		 .	Reported	hv:	 Time:			
OSHA Recordable Safety In	cideilis.		Keportea	- Уу.	111116.			

Rocky Mountain Power

Russ Johnson

Field Construction Representative

PACIFICORP OPERATIONS - Field Construction Representative Daily Log PROJECT NAME: Third West Sub - Rebuild DATE: Friday, April 27, 2011 3000078050 / 10035803 MAIN CONTRACTOR: Cache Valley Electric PO & Work Order NO.: 6:55 Crew Stop Time: 17:00 Tot Hrs mns: Crew Start Time: 17:05 Tot Hrs mns: FCR Start Time: 6:34 FCR Stop Time: Use military time format 00:00 **WEATHER CONDITIONS:** Partly Cloudy/Sunny - 40 degrees in AM, degrees in PM DESCRIPTION: (work performed, general comments, instructions to contractor, # of crew members onsite.) R&R set up four monitors. CVE Fab Crew assisted Newman in completing the 6" conduit into the south side of vaults 7 and 8 and clearing away dirt that fell into the trench as a result of last nights storm. Placed 40 cyds of FTB. CVE Electrical Ctew, one man, will be terminating and grounding in the control building and the switchgear. CVE Line Crew installed PASCOR extensions and couplers on the ground switch control pipe, checked aluminum 90 degrees adapters to make sure they will work for the center bushing jumpers on the CBs and installed bird guard on the switchgear bus. Nevman completed the 6" conduit at the south side of vaults 7 and 8 and lubed equipment. Emerson was not on site today but will return on Monday, April 30. CVE Line Crew = 3, CVE Fab Crew = 5, CVE Electrical Crew = 1, Nevrman = 5, Emerson = 0, R&R = 1, Wilding =1. IF WORKING IN ENERGIZED SUBSTATION: Dispatcher login, name and time: Al Swinski 0634 Dispatcher logout, name and time: Al Swinkski 1706 DISCREPANCIES: **IMMEDIATE CORRECTIVE ACTION TAKEN:** 4/21 - Identified a dimension issue on the PASCOR ground switch control arm. (22' vs 25') Received extensions and couplers and installed. DELAYS OR LOST TIME ENCOUNTERED: EQUIPMENT (working, delivered, idle): CVE fab crew: Portable toilet (3), forklift, 1 dumpster, office trailer, conex, exclusion zone conex, (2), tool trailer, crew truck. CVE Line Crew: Pickup (2), JLG (2), tool trailer. Newman: trachoe (2), loader, bobcat, mini-ex, water truck, compactor, backhoe. Reported by: OSHA Recordable Safety Incidents: Time:

Rocky Mountain Power

Russ Johnson

Field Construction Representative

PACIFICORP OPERATIONS - Field Construction Representative Daily Log

PROJECT NAME:	Third West Sub - Rebuild		DATE : Satu	rday, Ap ril 28, 2	2012
PO & Work Order NO. :	300007805	0 / 10035803	MAIN CONTRACTOR :	Cache Valley	/ Electric
Crew Start Time:	6:55	Crew Stop Time:	15:00	Tot Hrs mns:	8:05
FCR Start Time:	6:40	FCR Stop Time:	15:15	Tot Hrs mns:	8:35
Use military time format 00:00	0.40	TOR Otop Time.	10.10		0.00
oscillator and remark to the					
WEATHER CONDITIONS:		Sunny - 40 degre	ees in AM, 70 degrees in F	PM	
DESCRIPTION: (work perfo					
on Monday, April 30. Southwire/NCVE Line Crew = 3, CVE Fab C					M onday.
IF WORKING IN ENERGIZED					
Dispatcher login, name and time:					
Dispatcher logout, name and time DISCREPANCIES:	E: Val Christense		IMMEDIATE CORRECTIV	/E ACTION TA	KEN:
DISCREFANCIES.			IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII	L AOTION TA	IXEIV.
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ŀ	•				
4/21 - Identified a dimension issue or	n the PASCOR ground	switch control am. (22' vs 25')	Received extensions and couple	ers and installed.	
DELAYS OR LOST TIME EN	COUNTERED:	 			- 1
EQUIPMENT (working, deliv	vered idle):				
CVE fab crew: Portable toilet (3), for JLG (2), tool trailer: Newman: trach	klift, 1 dumpster, office			. CVE Line Crew:	Pickup (2),
OSHA Recordable Safety In	cidents		Reported	by:	 Time:
Con A Recordable Salety III	oluciită.	· · · · · · · · · · · · · · · · · · ·	Reported	~ <i>j</i> ·	
		 -			

Rocky Mountain Power

Russ Johnson

Field Construction Representative



April 25, 2012

Laboratory Code:

RES

Subcontract Number:

NA

Laboratory Report: Project # / P.O. #

RES 234381-1 None Given

Project Description:

3rd West Sub - RMP

Eldon Romney R & R Environmental 47 West 9000 South #2 Sandy UT 84070

Dear Customer,

Reservoirs Environmental, Inc. is an analytical laboratory accredited for the analysis of Industrial Hygiene and Environmental matrices by the National Voluntary Laboratory Accreditation Program (NVLAP), Lab Code 101896-0 for Transmission Electron Microscopy (TEM) and Polarized Light Microscopy (PLM) analysis and the American Industrial Hygiene Association (AIHA), Lab ID 101533 - Accreditation Certificate #480 for Phase Contrast Microscopy (PCM) analysis. This laboratory is currently proficient in both Proficiency Testing and PAT programs respectively.

Reservoirs Environmental, Inc. has analyzed the following samples for asbestos content as per your request. The analysis has been completed in general accordance with the appropriate methodology as stated in the attached analysis table. The results have been submitted to your office.

RES 234381-1 is the job number assigned to this study. This report is considered highly confidential and the sole property of the customer. Reservoirs Environmental, Inc. will not discuss any part of this study with personnel other than those of the client. The results described in this report only apply to the samples analyzed. This report must not be used to claim endorsement of products or analytical results by NVLAP or any agency of the U.S. Government. This report shall not be reproduced except in full, without written approval from Reservoirs Environmental, Inc. Samples will be disposed of after sixty days unless longer storage is requested. If you have any questions about this report, please feel free to call 303-964-1986.

Sincerely.

Jeanne Spencer Orr

President

RESERVOIRS ENVIRONMENTAL, INC.

NVLAP Lab Code 101896-0; TDH: #30-0015

TABLE I. TEM AIR FILTER SAMPLE DATA AND ANALYTICAL RESULTS

RES Job Number:

RES 234381-1

Client:

R & R Environmental

Client Project Number / P.O.:

None Given

Client Project Description:

3rd West Sub - RMP

Date Samples Received:

April 24, 2012

Analysis Type:

TEM, AHERA

Turnaround:

24 Hour

Date Samples Analyzed:

April 25, 2012

Client	Lab		Area	Air	Number of	Analytical	Asbestos	Filter
ID Number	ID N	umber	Analyzed	Volume Sampled	Asbestos Structures Detected	Sensitivity	Concentration	Loading
			(mm²)	(L)		(s/cc)	(s/cc)	(s/mm²)
3W-042312 W	EM	878370	0.0900	912	ND	0.0047	BAS	BAS
3W-042312 N	EM	878371	0.1000	912	1	0.0042	0.0042	10.0
3W-042312 E	EM	878372	0.1000	846	ND	0.0046	BAS	BAS
3W-042312 S	EM	878373	0.0900	910	ND	0.0047	BAS	BAS

NA = Not Analyzed

ND = None Detected

BAS = Below Analytical Sensitivity

Average Grid Opening in mm² = 0.010

Filter Material = Mixed Cellulose Ester

Filter Diameter = 25 mm

Effective Filter Area = 385 sq mm

DATA QA

RESERVOIRS ENVIRONMENTAL, INC.

NVLAP Lab Code 101896-0; TDH: #30-0016

TABLE II. SUMMARY OF ANALYTICAL DATA

RES Job Number:

RES 234381-1

Client:

R & R Environmental

Client Project Number / P.O.:

None Given

Client Project Description:

3rd West Sub - RMP

Date Samples Received:

April 24, 2012

Analysis Type:

TEM, AHERA

Turnaround:

24 Hour

Date Samples Analyzed:

April 25, 2012

Client ID Number	Lab ID Ni	.ab Asbestos D Number Mineral		Asbestos Structure Types*				Structures >5 Microns in Length	**Excluded Structures	Asbestos Structures for	
			_	Fibers	Bundles	Clusters	Matrices			Concentration	
3W-042312 W	EM	878370	ND	0	0	0	0	0		C	
3W-042312 N	EM	878371	Libby Amphibole	1	0	0	0	0	0	1	
3W-042312 E	EM	878372	, ND	0	0	0	0	0	0	O	
3W-042312 S	EM	878373	. ND	0	0	0	0	0	0	O	

^{*}See Analytical Procedure for definitions

^{**}C = Excluded from total due to lack of confirmation

^{**}L = Excluded from total for length less than 0.5 micron (AHERA only)

^{**}A = Excluded from total due to i ncorrect aspect ratio

ND = None Detected

Due Date:_	4-25.12
Due Time:	834h

REILAB RESERVOITS Environmental, Inc... 5801 Logan St. Denner, CO 80216 - Phr. 303 654-1956 - Par 303-497-4275 - Yolf Feo 266 RESI-BIN

Page ____1__ of ____

	INVOICE TO: (II	F DIF	FERI	ENT)	ı								c	ONTA	CT II	NFO	RMAT	10N:			
Company: LIR Eurivernmental	Company;	Company;			- 1	Contact Down Roskeller						Contact Justin Kargis									
Address: 47 W 9000 S #2	Address:	Address:				Pho									Phone:						
Sandy Ut. 84070						Fax:						Fax:									
,						Cett	/page	80 Delive	150	4(-	10	55				Cen	pager:	801	828-5	219	· .
Project Number and/or P.O. #: Project Description/Location: 33 West Stub - Rup							_	re Q					<u>~</u>						•		
ASBESTOS LABORATORY HOURS: Weekdays: 7am - 7pm		Т		:	R	REQU	EST	ED A	NAL	YS	s			T	VA	LID	MATR	IX CO	DES	LAB	NØTES:
PLM / PCM ((tem) RUSH (Same Day) K PRIORITY (Next D	ay)STANDARD	Т		T	\prod					T	П	Т			Air:	= A		Bı	ulk = B		
(Rush PCM = 2hr, TEM = Shr.)	<u></u>	4	1	1	1	1								_	Dust				aint = P	10	
CHEMISTRY LABORATORY HOURS: Weekdays: 8am - Spin		4]					1	Н			1	1		Soil				pe = W		425/2
Metal(s) / Dust RUSH 24 hr. 3-5 Day RCRA 8 / Metats & Welding	**Prior notification Is		Quant,	1						8						= SW	_		= Food Vater = WW		
Fume Scan / TCLP RUSH 5 day 10 day	required for RUSH turnerounds.**	Count	o a	1 1		Scan	}				П		entification NOTES	Drinkir	B) AA		0 = Ot		ASIGL - ANAL		<u></u>
Organics 24 hr 3 day5 Day	tumaroungs.	Paint	Preps +			Metais					ا ۔		NOTES	"AS	TME				nsdla only**		
MICROBIOLOGY LABORATORY HOURS: Weekdays: 9ain - 6	וחי	يّ [SS ES				' i		1	٦	gg.	§ s	3 8		Τ	T					
E.coll O157:H7, Coliforms, S.auraus24 hr2 Day		١	7402, ISO ISO-Indirect	OSHA		Fume,				힐	E I	1 3	on Our								
Salmonella, Listeria, E.coll, APC, Y & M 48 Hr3-5 D	•	long,	, š		줧	96		٠			8		S S	ĺ		ĺ				 	
	48 Hr3 Day\$ Day	_	1 S S	74008,	Respirable	rte(s) Welding	ᇎ	4 .	}	ξļā	5	ď	ALS							 -	
"Turnaround times establish a laboratory priority, subject to laboratory volume and apply for atterhours, weakends and toildays."	are not guaranteed. Additional fees	g Port	₹ ĕ				틯	# E	+	8	7	. 0	- <u> E</u>	홑	١.	"					
Special Instructions:		Ę	퓨운	7400A	- Total	- Anal TCLP,	ORGANICS - METH	Salmonella: +/. E.cofi O157:H7:	0 1	₹ Z	Coliforms:	1	\$ S	Volume	8	je				E 84 Numb	000
		S	₹ <u>8</u>	1 • 1	<u>.</u>	ALS A 8,	AN	Salmone E.cofi O1	Listeria:	8	影	85	홍님	물물	<u>ا</u>	Containe		ale	Time		er (Laboratory Only)
Client sample ID number (Sample ID's must be unique	18)	를	Se TE	2	DUST	METALS RORA 8,	8	07 JW		ROBI	OF OG	Y Y	~ \\	Sample V (L) / Area	Matrix	ပ္ရ #		cted dd/yy	Collected		
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2 3W-042512 N		1				-	\neg	. :	1	+-	1			412	1	†	1	70			<u> </u>
3 3W-042312 E	<u>· · · · · · · · · · · · · · · · · · · </u>	H		+	-			+	H	+-	-	╫	+	846	+	†-		-			7
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	onal samples shall be listed on	attac	hed lo	na fo	rm)		-	<		نــــــــــــــــــــــــــــــــــــــ		لنا	<u> </u>			Щ.		1			
NOTE: REI will analyze incoming samples based upon information received and will not be	responsible for errors or omissionS in ca	alcufat	ions ras	ulting fr	rom the	a inaccu	пасу о	f or ig in	al data	. By S	gnica	client/	company re	prasentati	/a agr	eas the	at submis	silon of t	ha following sar	nples for reques	ted
analysis as indicated on this Chaip of Custody shall constitute an analytical services agree.		s, fallu	ine to co	mply wi	ith pay	ment ter	ms m	ay resu	lt in a '	1.5%	nonth	y inter	oct surchan	je.							
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Attachment I

Key to Count Sheets
Count Sheets
Analytical Procedures

Structures identifications consist of an Asbestos Type followed by a Structure Type

Asbestos Type A = Amosite An = Anthophyllite C = Chrysotile Cr = Crocidolite Structure Types F = Fiber B = Bundle C = Cluster M = Matrix

ND = no structures detected

M = other structure associated with a matrix

NAM = Non Asbestos Mineral

XGB = partly obscured by a grid bar

Sizing Conversion

1 length unit = 5 mm on screen = 0.278 micron
1.80 length units = 0.5 micron
18.0 length units = 5 microns

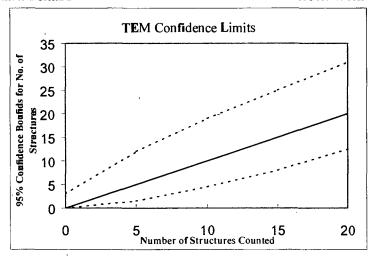
1 width unit = 1 mm on screen = 0.0556 micron

TEM Analysts

Jeanne S. Orr Nathan DelHierro Angela Heitger Jonathan Bernard

= Tremolite

Paul D. LoScalzo Mark Steiner Norberto Zimbleman Robert Workman



Upper and lower 95% confidence bounds for the number of structures counted assuming a Poisson distribution.

Resarvoirs Environmental, Inc. TEM Asbestos Strueture Count

Laboratory name:	REI
Instmment	JEOL 100 CX (1) S
Voltage (KV)	100 KV
Magnification	(20K) 10KX
Grid opening area (mm2)	0.01
Scale: 1L=	0.28 um
Scale: 1D ≈	0.056 um
Primary filter area (mm2)	385
Secondary Filter Area (mm2)	
QA Type	

Client :	Rock
Sample Type (A=Air, D=Dust):	A
Air volume (L) or dust area (cm2)	912
Date received by lab	4/24/12
Lab Job Number:	2 34381
Lab Sample Number:	878370

Analyzed by	JB
Analysis date	4/25/12
Method (D=Direct, i=Indirect, IA=Indirect, ashed).	D'
Counting mles (ISO, AHERA, ASTM)	Att
Grid storage location	Month Analyzed
Scope Alignment	Oate Analyzed

F-Factor Calculation (indirect Preps	Only):
Fraction of primary filter used	
Total Resuspension Volume (ml)	
Volume Applied to secondary filter (ml)	

Grid	Grid Opening	Structure	No. of Str	uctures	Dimer	nsions	Identification	Mineral Class				1 = ye	es, blank	= no
Cild	Ond Opening	Type [.]	Primary	Totai	Length	Width		Amphibole	С	NAM	Sketch/Comments	Sketch	Photo	EDS
A	643	N											l. 	
	F4-3	MD			9) ~~~	A 90	honter	nf_	5-1	O'L OBOR	5		
	£4-3	M			P	<u></u>	B 7	2% in fun	4	5-10	% debr	>		
	E5-3	ND				·	/					·		
	C5-3	MD					41-	4/25/	Z					
3	K3-6	MD						" "						
	H36	ND							_					
	GB-6	ND									·			
	F3-6	ND												

Page	1	of	

Roservoirs	Environmental, Inc.
TEM Asbes	tos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX 🔊 S
Voltage (KV)	100 KV
Magnification	20K 10KX
Grid opening area (mm2)	0.01
Scale: IL=	0.28 um
Scale: 1D =	0.0 5 6 um
Primary filter area (mm2)	385
Secondary Filter Area (mm2)	
QA Type	

Rock
A
917
4/24/12
2 34381
878371

	r
Analyzed by	JB
Analysis date	4/25/12
Method (D=Dlrect, l=Indirect, IA=Indirect, ashed)	D
Counting rules (ISO, AHERA, ASTM)	Att
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

F-Factor Calculation (Indirect Preps Only):					
Fraction of primary filter used					
Total Resuspension Volume (ml)					
Volume Applied to secondary fitter (ml)					

Grid	Grid Opening	Structure	No. of Str	ictures	Dimer	sions	Identification	Mineral Class	·			1 = yes, blank = no		
Ond	One Opening	Type i	Primary	Total	Length	Width		Amphibola	С	NAM	Sketch/Comments	Sketch	Photo	EDS
A	H2-3	ND												
	62-3	MD			Pm	A	80%	infant	10	% de	bris:			
	F2-3	ND			Pur	B	60%	nbut	10	ho de	bns			
	E2-3	MD												
	E3-6	ND												
B	63-4	ND												
	F3-4	ND												
	E3-4	ND				·						•		
	H4-6	ND												
	G4-6	F			13	5	ADX	LA		sh	S			

, LA = Libby-type amphibole

NAM = Non-asbestos material

Reservoirs Environmental, Inc. TEM Asbestos Structure Count

Laboratory name:	REI
Instaiment	JEOL 100 CX 🔞 S
Voltage (KV)	100 KV
Magnification	(20KX) 10KX
Grid opening area (mm2)	0.01
Scale: 1L =	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm2)	385
Secondary Filter Area (mm2)	
QA Type	

Client :	Roth
Sample Type (A=Air, D=Dust):	A
Air volume (L) or dust area (cm2)	846
Date received by lab	4/24/12
Lab Job Number:	2 34381
Lab Sample Number:	878372

Analyzed by	JB
Analysis date	4/25/12
Method (D=Direct, I=Indirect, IA=Indirect, ashed).	, D,
Counting rules (ISO, AHERA, ASTM)	AH
Grid storage location	Montii Analyzed
Scope Alignment	Date Analyzed

F-Factor Calculation (Indirect Preps	Only):
Fraction of primary filter used	
Total Resuspension Volume (mi)	
Volume Applied to secondary filter (mi)	

Grid	Grid Opening	Stmcture	No. of Str	uctures	Oime	nsions	Identification	Mineral Class				1 = ves, blank = no		
	Chu Operang	Type [.]	Primary	Total	Length	Width	- Idonalion	Amphibole	С	NAM	NAM Sketch/Comments		Photo	EDS
A	H4-4	ND												
	G4-4	M		,										
	F4-4	M			Pap	s A	rB	~80%	uh	af_	10% dol	w.		
	<u>=4-4</u>	ND			•		•	1		,				
	C4-4	ND						18	4/24	1/2				
B	4-3	ND							7	· · ·				
	K4-3	ND					/							
	H4-3	MO												
	643	M												
	F4.3	M			-									

Reservoirs Environmental, Inc. TEM Astrestos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX (N) S
Voltage (KV)	100 KV
Magnification	20KX 10KX
Grid opening area (mm2)	0.01
Scale: 1L =	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm2)	385
Secondary Filter Area (mm2)	·
QA Type	

Roll
A
910
4/24/12
2 34381
878373

Analyzed by	JB
Analysis date	4/25/12
Method (D=Direct, I=Indirect, IA=Indirect, ashed).	D
Counting rules (ISO, AHERA, ASTM)	AH
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

F-Factor Calculation (Indirect Preps	Only):
Fraction of primary filter used	
Total Resuspension Volume (ml)	
Volume Applied to secondary filter (ml)	

Grid	Grid Opening	Structure	No. of St	ructures	Oimer	nsions	Identification	Mineral Class				1 = yes, blank = no		
0.10	one oponing	Туре	Primary	Total	Length	Width		Amphibole	С	NAM	Sketch/Comments	Sketch	Photo	EDS
A	K3-1	WD						·						
1B	1+3-4	ND			Page	A	70%	intant	5	% de	bus			
4/25/12	63-4	ND			Pun	B	80%	inhut	5%	//	evis			
	F3-1	20						1						
	E3-1	8						1B 4h	5/12					
B	K3-3	2						7 1 7				,.		
	H3-3	ND					/							
	G3-3	M				_		•. "						
	F3-3	ND										•		

Analytical Procedures - AHERA

Transmission electron microscopy/energy dispersive X-ray spectrometry/selected area electron diffraction (TEM/EDX/SAED) was employed in the analysis of the samples, which were collected on 25 mm mixed cellulose ester air filters. A portion of each filter was collapsed with acetone and etched in a plasma asher. The etched filter was then coated with a thin layer of carbon in a carbon side down. The sample was then placed inside a condensation washer and treated with acetone to remove the filter matrix and expose any inert material.

For each sample, enough grid openings on a 200 mesh TEM grid are analyzed to ensure an analytical sensitivity of at least 0.005 structures/cc. A minimum of four grid openings from two preparations are analyzed for each sample. The grid openings are searched for fibrous structures which, if present are analyzed by SAED and/or EDX (elemental analysis). The AHERA protocol requires SAED confirmation of enough chrysotile asbestos structures on each sample to cause the sample to exceed 70 structures/mm² (usually 4 or 5 structures). Both SAED and EDX confirmation are required of enough amphibole structures on each sample to cause the sample to exceed 70 structures/mm² (usually 4 or 5 structures) per sample. Either SAED or EDX is required for the remaining asbestos structures of either type. The morphology of each structure is determined and the length and the diameter of any asbestos structures are recorded. Asbestos fibers, bundles, cluster and matrices were identified and recorded. The asbestos structures have been defined in AHERA as follows:

Fiber: is a structure having a minimum length greater than or equal to 0.5

micron with an aspect ratio of 5:1 or greater with substantially parallel

sides.

Bundle: is a structure composed of three or more fibers in parallel arrangement,

with each fiber closer than the diameter of one fiber.

Cluster: is a structure with fibers in random arrangements such that all fibers are

intermixed and no single fiber is isolated from the group.

Matrix: is a fiber or fibers with one end free and the other end embedded or

hidden by a particulate. The exposed fiber end must meet the fiber

definition given above.

If more than 50 asbestos structures are identified and confirmed on a sample, AHERA analysis may be terminated after completion of the grid opening, which contains the 50th structure. AHERA protocol requires the laboratory to reject any clearance sample which contains in excess of 25% total particulate loading or which appears to be unevenly loaded.

The AHERA protocol includes specific sampling requirements, including minimum numbers of samples and minimum air volumes. Specifically, the 70 structures/mm² clearance criteria is only allowed for sets five inside samples (collected in a group of 13 samples including: five outsides and three blanks) with volumes greater than 1200 liters (40 CFR Part 763, page 41894). Deviation from the AHERA sampling protocol may affect the validity of the analytical results. Analysis of samples collected by non-protocol methods are not accredited by NVLAP

Equations Used for Calculations

Area Analyzed, mm² = # GO counted x Average GO Area (mm)

Concentration, s/cc = $\frac{\text{\# Asbestos Structures}}{\text{\# GO Counted}} \times \frac{1}{\text{Volume (L)}} \times \frac{\text{Eff. Filter Area (mm}^2)}{\text{Average GO area (mm}^2)} \times \frac{1L}{1000cc}$

Filter loading, s/mm² = # Asbestos structures Area Analyzed (mm²)

GO = TEM grid opening



April 26, 2012

Laboratory Code:

RES

Subcontract Number:

NA

Laboratory Report: Project # / P.O. # Project Description: RES 234494-1 None Given

3rd West Sub - RMP

David Roskelley R & R Environmental 47 West 9000 South #2 Sandy UT 84070

Dear Customer, ->

Reservoirs Environmental, Inc. is an analytical laboratory accredited for the analysis of Industrial Hygiene and Environmental matrices by the National Voluntary Laboratory Accreditation Program (NVLAP), Lab Code 101896-0 for Transmission Electron Microscopy (TEM) and Polarized Light Microscopy (PLM) analysis and the American Industrial Hygiene Association (AIHA), Lab ID 101533 - Accreditation Certificate #480 for Phase Contrast Microscopy (PCM) analysis. This laboratory is currently proficient in both Proficiency Testing and PAT programs respectively.

Reservoirs Environmental, Inc. has analyzed the following samples for asbestos content as per your request. The analysis has been completed in general accordance with the appropriate methodology as stated in the attached analysis table. The results have been submitted to your office.

RES 234494-1 is the job number assigned to this study. This report is considered highly confidential and the sole property of the customer. Reservoirs Environmental, Inc. will not discuss any part of this study with personnel other than those of the client. The results described in this report only apply to the samples analyzed. This report must not be used to claim endorsement of products or analytical results by NVLAP or any agency of the U.S. Government. This report shall not be reproduced except in full, without written approval from Reservoirs Environmental, Inc. Samples will be disposed of after sixty days unless longer storage is requested. If you have any questions about this report, please feel free to call 303-964-1986.

Sincerely,

Jeanne Spencer Orr

President

RESERVOIRS ENVIRONMENTAL, INC.

NVLAP Lab Code 101896-0; TDH: #30-0015

TABLE I. TEM AIR FILTER SAMPLE DATA AND ANALYTICAL RESULTS

RES Job Number:

RES 234494-1

Client:

R & R Environmental

Client Project Number / P.O.:

None Given

Client Project Description: Date Samples Received:

3rd West Sub - RMP

Analysis Type:

April 25, 2012 TEM, AHERA

Turnaround:

Date Samples Analyzed:

24 Hour April 25, 2012

Client D Number	Lab ID Number		Number Analyzed Volume Asbestos Sampled Structures		Number of Asbestos Structures Detected	Analytical Sensitivity	Asbestos Concentration	Filter Loading	
			(mm²)	(L)	Detected	(s/cc)	(s/cc)	(s/mm²)	
3W-042412 W	EM	878517	0.0900	929	ND	0.0046	BAS	BAS	
3W-042412 N	EM	878518	0.0900	9 2 9	ND	0.0046	BAS	BAS	
3W-042412 E	EM	878519	· 0.1000	846	ND	0.0046	BAS	BAS	
3W-042412 S	EM	878 52 0	0.0900	929	ND	0.0046	BAS	BAS	
NA = Not Analyzed ND = None Detected BAS = Below Analytical Sensitivity Average Grid Opening in mm ² = 0.010			Filter Diame	al = Mixed Ce ter = 25 mm ter Area = 385			Digitally purposed or Estable Comment of the Commen		

DATA QA-

Due Date:_	42612
Due Time:	5+5m

Due Time	E+5	REL	A Re	ser	erir.	S	E	771	185	o:	70	784) I		7 1	FETT									
	·			SM1 Logan	St. Denner, C	0 8020	6 - Plic	383 964	1996-1	ax 301	477-4	275 -	Tell Fr	ze :##	6 REE	HENV			-			Pa	age	10	'	
					per: 303-56 5 ETO: (IF		EREI	JTI								c	ONT	ACT	INF	ORM	ATION:	•				
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	und 1 12 84									ex:									L	ax.		•				
											* S E									ell/pag	Sr.					
roject Number									'		a Celive	_														
Project Descript	OUNTOCUTION: STEEL IX	lest Sub-RMP									لعدا	<u> (e)</u>	· VV	'en	1,70	٠.دئ٠	<u> </u>									
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PLM / PCM	/(TEM/R	RUSH (Same Day) K PRIORH		_STANDARD			i												ir = A			Bu <u>lk =</u>				
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		Y HOURS: Weekdays: Bar		Variation (See	18 17 Dec 16						}				11	İ	-)II = 5	_		Nipe :				
Melal(s) / C		RUSH 24 hr	_3-5 Day	*Prior notificati	on ia	ļ	Quant,				ì		5				<u> </u>	SwB			N Wast	F = F0				
RURA 5 / N Fume Scar	letals & Welding	RUSH 5 day	_10 day	required for Ri		8	ő,			3	1	1 1	entification		11	g 8	ייטן	uking	AABIE		Other	O vvau	Bi = 0000			
Organics		24 hr 3 day	5 Day	turnarounds		Point Count	, FE			é			ig g	ا ۔ ا	.		- -	ASTN	1 E17		roved wip	e med	ia only**			
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Salmortella	, Listerla, E.coll, Al	PC, Y & NI 48 Hr.	3-5 Day			Langr	<u>₹</u> 8	8 3 1		2	Η.	. 1	7	3 8		S S	1		ı			ł				
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Number of	samples received:	4	(Additional	samples shall	be listed on	attaci	tred lo	ng forr	n.)	_				-بلــــــــــــــــــــــــــــــــــــ								·k				
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4: 7514 5025 KGC

Attachment I

Key to Count Sheets Count Sheets Analytical Procedures

Structures identifications consist of an Asbestos Type followed by a Structure Type

Asbestos Type

Structure Types

Α	=	Amosite	F =	Fiber
An	=	Anthophyllite	B =	Bundle
C	=	Chrysotile	C =	Cluster
Cr	=	Crocidolite	M =	Matrix
T	=	Tremolite		

ND = no structures detected

M = other structure associated with a matrix

NAM = Non Asbestos Mineral

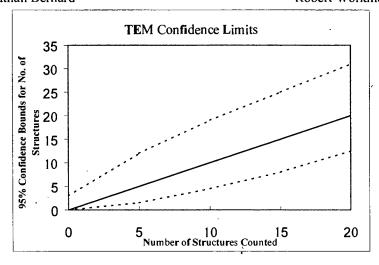
XGB = partly obscured by a grid bar

Sizing Conversion
1 length unit = 5 mm on screen = 0.278 micron
1.80 length units = 0.5 micron
18.0 length units = 5 microns

1 width unit = 1 mm on screen = 0.0556 micron

TEM Analysts

Jeanne S. Orr Nathan DelHierro Angela Heitger Jonathan Bernard Paul D. LoScalzo Mark Steiner Norberto Zimbleman Robert Workman



Upper and lower 95% confidence bounds for the number of structures counted assuming a Poisson distribution.

Reservoirs Environmental, Inc. TEM Asbestos Structure Count

Laboratory name:	REL
Instrument	JEOL 100 CX NS
Voltage (KV)	100 KV
Magnification	EURX IOKX
Grid opening area (mm2)	0.01
Scale: 1L =	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm2)	385
Secondary Filter Area (mm2)	٠.
QA Type	

Client	RTR
Sample Type (A=Alr, D=Dus0:	A.
Air volume (L) or dust area (cm2)	929
Date received by lab	4/25/12
Lab Job Number:	234494
Lab Sample Number:	878517

1	
Analyzed by	-fil
Analysis date	4/25/12
Method (D=Direct, i=Indlrect, IA=Indirect, ashed)	D
Counting rules (ISO, AHERA; ASTM)	AH
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

F-Factor Caiculation (Indirect Preps	Only):
Fraction of primary filter used	
Total Resuspension Volume (ml)	
Volume Applied to secondary filter (ml)	

Grid	Grid Opening	Structure	No. of Str	uctures	Dimer	nsions	tdentification	Identification Mineral Class				1 = ye	s, blank	= no
Cild	Ond Opening	Туре	Primary	Total			dentinoation	Amphibole	С	NAM	Skefch/Comments	Sketch	Photo	EDS
A	H4-1	M												
	G4-1	M				Pres	o A g	27 mine	- 5	77	Seb is			
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B	124-4	M												
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	944	M												
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												:		

Resorvoirs Environniental, inc. TEM Asbestos Structure Count

Client :	R+R
Sample Type (A=Alr, D=Dust):	A
Air volume (L) or dust area (cm2)	929
Date received by lab	4/25/12
Lab Job Number:	234494
Lab Sample Number:	8785 18

Analyzed by	M
Analysis dale	4/25/12
Method (D=Direct, I=Indirect, IA=indirect, ashed)	D
Counting rules (ISO, AHERA, ASTM)	AH
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

F-Factor Calculation (Indirect Preps	Only):
Fraction of primary filter used	
Total Resuspension Volume (ml)	
Voluma Applied to secondary filter (ml)	

Grid	Grid Opening	Structure	No. of Str	uclures	clures Dimensions		Identification	Mineral Class				1 = yes, blank = no			
O.I.G	Ond Opening	Туре	Primary	Total	Length Width		Identification	Amphibole	С	NAM	Sketch/Commenis	Sketch	Photo	EDS	
A	64-4	W													
	FYY	M			By	er A	80%	Hast 5	-7	2 ≥l	bris				
	ENM	M			1 7	ep B	90%	Wac 5	72	det	10 1e	~ 41	25/	-	
	C4-4	M													
	BUY	M								 					
B	1-3-6	M											<u>.</u>		
	E3-6	M													
	(36	M									,				
	33-6	W						·							
	·														

LA = Libby-type amphiboie

Laboratory name:

Instrument

Voltage (KV)

Magnification

Scale: 1L =

(mm2) QA Tvoe

Grid opening area (mm2)

Primary filter area (mm2)

Secondary Filter Area

JEOL 100 CX N S

100 KV

EUKX JOKX

0.01 0.28 um

0.056 um

385

OA = Other (non-Libby type) amphibole

C = Chrysotile

NAM = Non-asbestos material

T:\Worksfiee! in TEM Bench sheet.doc

Reservoirs Environmental, Inc. TEM Asbestos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX N(S)
∨oltaae (K∨)	100 KV
Magnification	2010X 10KX
Grid opening area (mm2)	0.01
Scale: 1L =	0.2 6 um
Scale: 1D =	0.056 um
Primary filter area (mm2)	385
Secondary Filter Area (mm2)	
QA Type	·

Client :	R+R
Sample Type (A=Alr, D=Dust):	A
Air volume (L) or dust area (cm2)	846
Date received by lab	4/25/12
Lab Job Number:	234494
Lab Sample Number:	878519

F-Factor Calculation (Indirect Preps	Only):	
Fraction of primary filter used		
Total Resuspension Volume (mi)	1.	
Volume Applied to secondary filter (mt)		

Analyzéd by	Me.
Analysis date	4/25/12
Melhod (D=Direct, (=Indirect, IA=Indirect, ashed)	D
Counting rules (ISO, AHERA, ASTM)	#H
Grid storage locatkin	Month Analyzed
Scope Alignment	Date Analyzed

Grid	Grid Opening	Structure	No. of Str	uclures	Dime	nsions	Identification	Mineral Class				1 = ye	es, blank	= no
Ond	Ond Opening	Туре	Primary	Total	Length	Width	recitineation	Amphibole	С	NAM	Sketch/Comments	Sketch	Photo	EDS
A	EM3	M		,										•
	W-3	M												
	953	M				frep	A not	& insach	5	21	bip			<u> </u>
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	P5-4	M												
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	G4-6	M												İ
	FUE	W												
	246	M												

LA = Libby-type amphibole

OA = Other (non-Libby type) amphibole

C = Chrysotile

NAM = Non-asbestos material

T:\Worksheet in TEM Bench street.doc

Reservoirs Environmental, Inc. TEM Asbestos Structure Count

RTR
A
929
4/25/12
234494
878520

Analyzed by	M
Analysis date	4/25/12
Method (D=Direct, i=Indirect, IA=Indirect, ashed)	D
Counting rules (ISO, AHERA, ASTM)	AH
Grid storage location	Month Analyzed
Scope Alignment	Dale Analyzed

Fraction of primary filter used	}
Total Resuspension Volume (ml)	
Total Resuspension Volume (ml) Volume Applied to secondary filter (ml)	<u> </u>

Grid	Grid Opening	Structure	No. of Str	uctures	Dime	nsions	Identification	Mineral Class				1 = y	es, blank	= no
Gild	Glid Opening	Туре	Primary	Total	Length	Width	Identification	Amphibole	С	NAM	Sketch/Comments	Sketch	Pholo	EDS
A	Caby	M												,
	Pay	M			lv	es A	८०% ४	Naco 3	10% de		n's			L
	864	M			Pn	er B	2902	intacs	SIUZ	de	los 10	24/	25/12	2
	C6 4	M												
	Boy	N												
3	HU-1	ai												
	G41	M						·	<u> </u>					
	P41	W					<u>.</u>				<u> </u>			
	EM-1	NO												
		,												

LA = Libby-type amphibole

REI

100 KV

0.01 0.28 um

0.056 um

385

JEOL 100 CX N

Laboratory name:

Instrument
Voltage (KV)

Magnification

Scale: 1L =

QA Type

Grid opening area (mm2)

Primary filter area (mm2) Secondary Filter Area (mm2)

OA = Other (non-Libby type) amphibole

C = Chrysotile

NAM = Non-asbestos material

T:\Wodsheet in TEM Bench sheet.doc

Analytical Procedures - AHERA

Transmission electron microscopy/energy dispersive X-ray spectrometry/selected area electron diffraction (TEM/EDX/SAED) was employed in the analysis of the samples, which were collected on 25 inm mixed cellulose ester air filters. A portion of each filter was collapsed with acetone and etched in a plasma asher. The etched filter was then coated with a thin layer of carbon in a carbon side down. The sample was then placed inside a condensation washer and treated with acetone to remove the filter matrix and expose any inert material.

For each sample, enough grid openings on a 200 mesh TEM grid are analyzed to ensure an analytical sensitivity of at least 0.005 structures/cc. A minimum of four grid openings from two preparations are analyzed for each sample. The grid openings are searched for fibrous structures which, if present are analyzed by SAED and/or EDX (elemental analysis). The AHERA protocol requires SAED confirmation of enough chrysotile asbestos structures on each sample to cause the sample to exceed 70 structures/mm² (usually 4 or 5 structures). Both SAED and EDX confirmation are required of enough amphibole structures on each sample to cause the sample to exceed 70 structures/mm² (usually 4 or 5 structures) per sample. Either SAED or EDX is required for the remaining asbestos structures of either type. The morphology of each structure is determined and the length and the diameter of any asbestos structures are recorded. Asbestos fibers, bundles, cluster and matrices were identified and recorded. The asbestos structures have been defined in AHERA as follows:

Fiber: is a structure having a minimum length greater than or equal to 0.5

micron with an aspect ratio of 5:1 or greater with substantially parallel

sides.

Bundle: is a structure composed of three or more fibers in parallel arrangement,

with each fiber closer than the diameter of one fiber.

Cluster: is a structure with fibers in random arrangements such that all fibers are

intermixed and no single fiber is isolated from the group.

Matrix: is a fiber or fibers with one end free and the other end embedded or

hidden by a particulate. The exposed fiber end must meet the fiber

definition given above.

If more than 50 asbestos structures are identified and confirmed on a sample, AHERA analysis may be terminated after completion of the grid opening, which contains the 50th structure. AHERA protocol requires the laboratory to reject any clearance sample which contains in excess of 25% total particulate loading or which appears to be unevenly loaded.

The AHERA protocol includes specific sampling requirements, including minimum numbers of samples and minimum air volumes. Specifically, the 70 structures/mm² clearance criteria is only allowed for sets five inside samples (collected in a group of 13 samples including: five outsides and three blanks) with volutines greater than 1200 liters (40 CFR Part 763, page 41894). Deviation from the AHERA sampling protocol may affect the validity of the analytical results. Analysis of samples collected by non-protocol methods are not accredited by NVLAP

Equations Used for Calculations

Area Analyzed, $mm^2 = \# GO \text{ counted } x \text{ Average } GO \text{ Area } (mm)$

Concentration, $s/cc = \frac{\text{\# Asbestos Structures}}{\text{\# GO Counted}} \times \frac{1}{\text{Volume (L)}} \times \frac{\text{Eff Filter Area (mm}^2)}{\text{Average GO area (mm}^2)} \times \frac{1L}{1000cc}$

Filter loading, s/mm² = # Asbestos structures Area Analyzed (mm²)

GO = TEM grid opening



April 27, 2012

Laboratory Code:

RES

Subcontract Number:

NA

Laboratory Report: Project # / P.O. #

RES 234591-1 None Given

Project Description:

3rd West Sub - RMP

David Roskelley R & R Environmental 47 West 9000 South #2 Sandy UT 84070

Dear Customer,

Reservoirs Environmental, Inc. is an analytical laboratory accredited for the analysis of Industrial Hygiene and Environmental matrices by the National Voluntary Laboratory Accreditation Program (NVLAP), Lab Code 101896-0 for Transmission Electron Microscopy (TEM) and Polarized Light Microscopy (PLM) analysis and the American Industrial Hygiene Association (AIHA), Lab ID 101533 - Accreditation Certificate #480 for Phase Contrast Microscopy (PCM) analysis. This laboratory is currently proficient in both Proficiency Testing and PAT programs respectively.

Reservoirs Environmental, Inc. has analyzed the following samples for asbestos content as per your request. The analysis has been completed in general accordance with the appropriate methodology as stated in the attached analysis table. The results have been submitted to your office.

RES 234591-1 is the job number assigned to this study. This report is considered highly confidential and the sole property of the customer. Reservoirs Environmental, Inc. will not discuss any part of this study with personnel other than those of the client. The results described in this report only apply to the samples analyzed. This report must not be used to claim endorsement of products or analytical results by NVLAP or any agency of the U.S. Government. This report shall not be reproduced except in full, without written approval from Reservoirs Environmental, Inc. Samples will be disposed of after sixty days unless longer storage is requested. If you have any questions about this report, please feel free to call 303-964-1986.

Sincerely,

Jeanne Spencer Orr

President

RESERVOIRS ENVIRONMENTAL, INC.

NVLAP Lab Code 101896-0; TDH: #30-0015

TABLE I. TEM AIR FILTER SAMPLE DATA AND ANALYTICAL RESULTS

RES Job Number:

RES 234591-1

Client:

R & R Environmental

Client Project Number / P.O.:

None Given

Client Project Description: Date Samples Received:

3rd West Sub - RMP

April 26, 2012

Analysis Type:

TEM, AHERA

Turnaround:

24 Hour

Date Samples Analyzed:

April 27, 2012

Client D Number	Lab ID Nu	ımber	Area Analyzed	Air Volume Sampled	Number of Asbestos Structures Detected	Analytical Sensitivity	Asbestos Concentration	Filter Loading
			(mm²)	(L)		(s/cc)	(s/cc)	(s/mm²)
3W-042512 W	ËM	87865 2	0.0800	993	ND	0.0048	BAS	BAS
3W-042512 N	EM	878653	0.0800	993	ND	0.0048	BAS	BAS
3W-042512 E	EM	878654	0.0800	993	ND	0.0048	BAS	BAS
3W-042512 S	EM	878655	0.0800	993	ND	0.0048	BAS	BAS

NA = Not Analyzed

ND = None Detected

BAS = Below Analytical Sensitivity

Average Grid Opening in mm² = 0.010

Filter Material = Mixed Cellulose Ester

Filter Diameter = 25 mm

Effective Filter Area = 385 sq mm

DATA QA

RESERVOIRS ENVIRONMENTAL, INC.

NVLAP Lab Code 101896-0; TDH: #30-0015

TABLE II. SUMMARY OF ANALYTICAL DATA

RES Job Number:

RES 234591-1

Client:

R & R Environmental

Client Project Number / P.O.:

None Given

Client Project Description:

3rd West Sub - RMP

Date Samples Received:

April 26, 2012

Analysis Type:

TEM, AHERA

Turnaround:

24 Hour

Date Samples Analyzed:

April 27, 2012

Client ID Number	Lab ID Ni	umber	Asbestos Mineral	Asi	oestos Str	ucture Typ	Des*	Structures >5 Microns in Length	**Excluded Structures	Asbestos Structures for
			-	Fibers	Bundles	Clusters	Matrices			Concentration
3W-042512 W	EM	8786 52	ND	0	0	0	0	0	0	Ó
3W-042512 N	EM	878653	ND	0	0	0	0	0	0	0
3W-042512 E	EM	878654	ND	0	0	0	. 0	0	. 0	0
3W-042512 S	EM	878655	ND	0	0	0	0	0	0	0

^{*}See Analytical Procedure for definitions

^{**}C = Excluded from total due to lack of confirmation

^{**}L = Excluded from total for length less than 0.5 micron (AHERA only)

^{**}A = Excluded from total due to i ncorrect as pect ratio

ND = None Detected

·Due Date:_ Due Time:_

SECTION RESERVOIRS ENVIRONMENTENTENT INC.

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Address: 4					Address:						- 1	Phone:										Phona							
50	inds Ut. 840	70										Fax:										Fax							
											Cellpager: 801 541-1035										Cett/pa								
Project Number] ^{Fi}	Final Data Deliverable Email Address:									•								
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Attachment I

Key to Count Sheets Count Sheets Analytical Procedures

Structures identifications consist of an Asbestos Type followed by a Structure Type

Asbestos Type A = Amosite An = Anthophyllite C = Chrysotile Cr = Crocidolite Structure Types F = Fiber B = Bundle C = Cluster M = Matrix

ND = no structures detected

M = other structure associated with a matrix

NAM = Non Asbestos Mineral

XGB = partly obscured by a grid bar

Sizing Conversion
1 length unit = 5 mm on screen = 0.278 micron
1.80 length units = 0.5 micron
18.0 length units = 5 microns

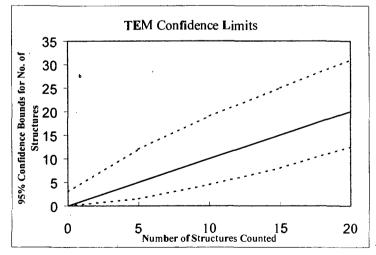
1 width unit = 1 mm on screen = 0.0556 micron

TEM Analysts

Jeanne S. Orr Nathan DelHierro Angela Heitger Jonathan Bernard

= Tremolite

Paul D. LoScalzo Mark Steiner Norberto Zimbleman Robert Workman



Upper and lower 95% confidence bounds for tile number of structures counted assuming a Poisson distribution.

Reservoirs Environmental, Inc. TEM Asbestos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX N(S)
Voltage (KV)	100 KV
Magnification	(20K) 10KX
Grid opening area (mm2)	0.01
Scale: 1L =	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm2)	385
Secondary Filter Area (mm2)	
QA Type	

Client :	Rale
Sample Type (A=Air, D=Dust):	A
Air yolume (L) or dust area (cm2)	993
Date received by lab	4/26/12
Lab Job Number:	234591
Lab Sample Number:	878652

Analyzed by	AH
Analysis date	4/21/2
Method (D=Direct, I=Indirect, IA=Indirect, ashed)	4
Counting rules (ISO, AHERA, ASTM)	AH
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

F-Factor Calculation (Indirect Preps	Only):
Fraction of primary fitter used	
Total Resuspension Volume (ml)	
Volume Applied to secondary filter (ml)	

	Grid	Grid Opening	Structure Type	No. of Structures		Dimensions		Identification	Mineral Class			1 = yes, blank = no			
. [Primary	Total	Length	Width	Identification	Amphibole	С	NAM	Sketch/Comments	Sketch	Photo	EDS
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Reservoirs Environmental, Inc. TEM Asbestos Structure Count

REI
JEOL 100 CX (N) S
100 KV
20KX 10KX
0.01
0.28 um
0.056 um
385

Client :	Rap
Sample Tyoe (A=Alr, D=Dust):	A
Air volume (L) or dust area (cm2)	993
Date received by lab	4/26/12
Lab Job Number:	234591
Lab Sample Number:	878653

F-Factor Calculation (Indirect Preps Only):							
Fraction of pilmary fitter used							
Total Resuspension Volume (ml)	,						
Volume Applied to secondary filter (ml)		·····					

Analyzed by	JB
Analysis date	1/27/12
Method (D=Direct, I=Indirect, IA=Indirect, ashed)	, R
Counting rules (ISO, AHERA, ASTM)	AH
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

Grid	Grid Opening	Structure	No. of Str	uctures	Dime	nsions	Identification	Mineral Class				1 = y	es, blank	= no
Gila	Grid Opening	Туре	Primary	Total	Length	Width	identification	Amphibola	С	NAM	Sketch/Comments	Sketch	. Photo	EDS
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	F4-3	ND			·									
	E4-3	ND												
	;													,

Reservoirs Environmental, Inc. TEM Astrestos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX NS
ansu unitent	BLOE 100 OX 1670
Voltage (KV)	100 KV
Magnification	20KX 10KX
Grid opening area (mm2)	0.01
Scale: 1L =	0.28 um
Scale: 1D=	0.056 um
Primary filter area (mm2)	385
Secondary Filter Area (mm2)	
QA Tyoe	· •

Client :	RAR
Samole Type (A=Air, D=Dust):	A
Air yolume (L) or dust area (cm2)	993
Date received by lab	4/26/12
Lab Job Number:	234591
Lab Sample Number:	878654

Analyzed by	JB
Analysis date	4/29/12
Method (D=Direct, I=Indirect, 1A=Indirect, ashed)	4
Counting rules (ISO, AHERA, ASTM)	AH
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

F-Factor Calculation (Indirect Preps Only):							
Fraction of primary filter used							
Total Resuspeneton Volume (ml)							
Volume Applied to secondary filter (ml)							

Grid	Grid Opening	Structure	No. of Str	No. of Structures		nsions	1dentification	Mineral Class	·····		·	1 = y	es, blank	= no
Glid	Grid Opening	Туре	Primary	Total	Length	Width	denuncation	Amphibole	С	NAM	Sketch/Comments	Sketch	Photo	EDS
A	63-1	M												<u> </u>
	C3-1	MD		, '.							·			
	B3-1	M		-	P.	25_	A-B	~60%	inh	a f	5% debu	<u> </u>		
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Reservoirs Environmental, Inc. TEM Asbestos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX (N) S
Voltage (KV)	100 KV
Magnification	20KX 10KX
Grid opening area (mm2)	0.01
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Scale: 1D =	0.056 um
Primary filter area (mm2)	385
Secondary Filter Area (mm2)	
QA Tyoe	

Client:	RaR
Sample Tyoe (A=Alr, D=Dust):	A
Air volume (L) or dust area (cm2)	993
Date received by lab	4/26/12
Lab Job Number:	234591
Lab Sample Number:	878655

Analyzed by	B
Analysis date	4/27/12
Method (D=Direct, I=Indirect, IA=Indirect, ashed)	" \(\(\)
Counting rules (ISO, AHERA, ASTM)	AH
Grid storage location	Month Analyzed
Scope Alignment	Dale Analyzed

F-Factor Calculation (Indirect Preps Onty):						
Frection of primary filter used	. •					
Total Resuspension Volume (ml)						
Volume Applied to secondary filter (ml)						

Grid	Grid Opening	Structure	No. of Str	No. of Structures		Dimensions		Dimensions		Dimensions		<u>Dimensions</u> Ide		uctures Dimensions		Mineral Class	· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·	1	1 = y	s, blank	= no
	Jona Opening	Туре	Primary	Total	Length	Width	Identificatkm	Amphibole	С	NAM	Sketch/Comments	Sketch	Photo	EDS								
A	62.6	ND																				
	F2-6	ND		.`	Pu	A	- 81	Then L	est	5	10% 6	ms										
-	EZ-10	ND			Pry	6/3	~60	hunta	nt:	5-	10 % dek	rus										
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B	63-1	ND					43	1/27/12						•								
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	F24	ND																				
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Analytical Procedures - AHERA

Transmission electron microscopy/energy dispersive X-ray spectrometry/selected area electron diffraction (TEM/EDX/SAED) was employed in the analysis of the samples, which were collected on 25 mm mixed cellulose ester air filters. A portion of each filter was collapsed with acetone and etched in a plasma asher. The etched filter was then coated with a thin layer of carbon in a carbon side down. The sample was then placed inside a condensation washer and treated with acetone to remove the filter matrix and expose any inert material.

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micron with an aspect ratio of 5:1 or greater with substantially parallel

sides.

Bundle: is a structure composed of three or more fibers in parallel arrangement,

with each fiber closer than the diameter of one fiber.

Cluster: is a structure with fibers in random arrangements such that all fibers are

intermixed and no single fiber is isolated from the group.

Matrix: is a fiber or fibers with one end free and the other end embedded or

hidden by a particulate. The exposed fiber end must meet the fiber

definition given above.

If more than 50 asbestos structures are identified and confirmed on a sample, AHERA analysis may be terminated after completion of the grid opening, which contains the 50th structure. AHERA protocol requires the laboratory to reject any clearance sample which contains in excess of 25% total particulate loading or which appears to be unevenly loaded.

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Equations Used for Calculations

Area Analyzed, mm² = # GO counted x Average GO Area (mm)

Concentration, s/cc = $\frac{\text{\# Asbestos Structures}}{\text{\# GO Counted}} \times \frac{1}{\text{Volume (L)}} \times \frac{\text{Eff. Filter Area (mm}^2)}{\text{AVerage GO area (mm}^2)} \times \frac{\text{IL}}{1000cc}$

Filter loading, $s/mm^2 = \frac{\text{\# Asbestos structures}}{\text{Area Analyzed (mm}^2)}$

GO = TEM grid opening



April 28, 2012

Laboratory Code:

RES

Subcontract Number:

NA

Laboratory Report: Project # / P.O. #

RES 234685-1 None Given

Project Description:

3rd West Sub - RMP

Eldon Romney R & R Environmental 47 West 9000 South #2 Sandy UT 84070

Dear Customer.

Reservoirs Environmental, Inc. is an analytical laboratory accredited for the analysis of Industrial Hygiene and Environmental matrices by the National Voluntary Laboratory Accreditation Program (NVLAP), Lab Code 101896-0 for Transmission Electron Microscopy (TEM) and Polarized Light Microscopy (PLM) analysis and the American Industrial Hygiene Association (AIHA), Lab ID 101533 - Accreditation Certificate #480 for Phase Contrast Microscopy (PCM) analysis. This laboratory is currently proficient in both Proficiency Testing and PAT programs respectively.

Reservoirs Environmental, Inc. has analyzed the following samples for asbestos content as per your request. The analysis has been completed in general accordance with the appropriate methodology as stated in the attached analysis table. The results have been submitted to your office.

RES 23468**5-1** is the job number assigned to this study. This report is considered highly confidential and the sole property of the customer. Reservoirs Environmental, Inc. will not discuss any part of this study with personnel other than those of the client. The results described in this report only apply to the samples analyzed. This report must not be used to claim endorsement of products or analytical results by NVLAP or any agency of the U.S. Government. This report shall not be reproduced except in full, without written approval from Reservoirs Environmental, Inc. Samples will be disposed of after sixty days unless longer storage is requested. If you have any questions about this report, please feel free to call 303-964-1986.

Sincerely,

Jeanne Spencer Orr

President

RESERVOIRS ENVIRONMENTAL, INC.

NVLAP Lab Code 101896-0; TDH: #30-0015

TABLE I. TEM AIR FILTER SAMPLE DATA AND ANALYTICAL RESULTS

RES Job Number:

RES 234685-1

Client:

R & R Environmental

Client Project Number / P.O.:

None Given

Client Project Description: Date Samples Received:

3rd West Sub - RMP April 27, 2012

Analysis Type:

TEM, AHERA

Turnaround:

24 Hour

Date Samples Analyzed:

April 27, 2012

Client ID Number	Lab ID Ni	umber	Area Analyzed	Air Volume Sampled	Number of Asbestos Structures Detected	Analytical Sensitivity	Asbestos Concentration	Filter Loading
			(mm²)	(L)	20110100	(s/cc)	(s/cc)	(s/mm²)
3W-042612 W	EM	878899	0.0900	957	ND	0.0045	BAS	BAS
3W-042612 N	EM	878900	0.0900	957	ND '	0.0045	BAS	BAS
3W-042612 E	EM	878901	0.1000	785	ND	· 0.0049	BAS	BAS
3W-042612 S	EM	878902	0.0900	955	ND	0.0045	BAS	BAS

NA = Not Analyzed

Filter Material = Mixed Cellulose Ester

ND = None Detected

Filter Diameter = 25 mm

BAS = Below Analytical Sensitivity
Average Grid Opening in mm² = 0.010

Effective Filter Area = 385 sq mm

DATA QA

0

RESERVOIRS ENVIRONMENTAL, INC.

NVLAP Lab Code 101896-0; TDH: #30-0015

TABLE II. SUMMARY OF ANALYTICAL DATA

RES Job Number:

RES 234685-1

Client:

R & R Environmental

Client Project Number / P.O.:

None Given

Client Project Description:

3rd West Sub - RMP

Date Samples Received:

April 27, 2012

Analysis Type:

TEM, AHERA

Turnaround:

24 Hour

Date Samples Analyzed:

April 27, 2012

Client ID Number	Lab J D Ni	umber	Asbestos Mineral	Asl	bestos Str	ucture Typ	oes*	Structures >5 Microns in Length	**Excluded Structures	Asbestos Structures for
			·	Fibers	Bundles	Clusters	Matrices			Concentration
3W-042612 W	EM	878899	ND	0	0	0	0	0	0	0
3W-042612 N	EM	878900	ND	0	0	0	0	0	0	0
3W-042612 E	EM	878901	ND	0	0	0	0	0	0	0
3W-042612 S	EM	878902	ND	0	0	0	0	0	. 0	0

^{*}See Analytical Procedure for definitions

^{**}C = Excluded from total due to lack of confirmation

^{**}L = Excluded from total for length less than 0.5 micron (AHERA only)

^{**}A = Excluded from total due to i ncorrect aspect ratio

ND = None Detected

Due Date:_	4-28-12
Due Time:_	9

Contact

Date

Time

Initials

REICAB RESERVOITS Environmental, Inc... SIDI Logar St. Tiesar, CO 20916 - Pb: 381 954-1999 - Fax 353-471-4275 - Tollifies: SEE RBS: 6NV

Pager: 303-509-2098 INVOICE TO: (IF DIFFERENT) **CONTACT INFORMATION:** Vave Roskelles Contact: Company: LER Environmental Address: hons: 10dress: 47 W 98005 #2 Fav CalVpager: 801 541-1035 Project Number and/or P.O. #: dave menino.com Project Desciption/Location: 30 West Sub - RMP REQUESTED ANALYSIS **VALID MATRIX CODES** LAB NOTES: ASBESTOS LABORATORY HOURS: Weekdays: 7am - Tpm RUSH (Same Day) X PRIORITY (Next Day) ___STANDARD Air = A Bulk = B (Rusti PCM = 2hr, TEM = Shr.) Dust = D Paint = P CHEMISTRY LABORATORY HOURS: Weekdays: 8am - Spm Soll = S Wipe = W F = Food Metal(s) / Oust RUSH ___ 24 hr. ___ 3-5 Day Swab = SW **Prior notificatian le Drinking Water = DW Waste Water = WW RCRA 8 / Metals & Walding required for RUSH Point Count RUSH ___ 5 day ___10 day Fume Scan / TCLP O = Other tumarounds.** "ASTM E1792 approved wipe media only" Organics 24 hr. 3 day S Day MICROBIOLOGY LABORATORY HOURS: Weekdays: 9am - 6pni Long report, 7402. ISO-Indir E.coll O157:H7, Collforms, S.aureus 24 hr. _ 2 Day OSH4 48 Hr. ___3-5 Day Salmonella, Listeria, E.coll, APC, Y & M RUSH ___ 24 Hr ___ 48 Hr ___ 3 Day PCM - 7400A, 7400B, Mold _5 Day - Short report, "Turnaround times establish a laboratory priority, subject to laboratory volume and are not guaranteed. Additional fees Sample Volume apply for afterhours, waskands and holidays." Code Special Instructions: (L) / Area EM Number (Laboratory Time Date Use Only) Collected Collected Client sample ID number (Sample ID's must be unique) 951 4/24/12 457 785 201 955 **Q2** 6 7 8 9 10 (Additional samples shall be listed on attached long form.) Number of samples received: NOTE: REI will analyze incoming samples based upon information received end will not be responsible for errors or omissions in calculations resulting from the inaccuracy of diligian data. By signing client/company representative agrees that submission of the following samples for requested enalysis as indicated on this Chain of Custody share senseting analytical services agreement with payment terms of NET 30 days, failure to comply with payment terms may result in 8 1-52 (tlonthly infarast surcha-ge. Relinguished By: Date/Time: Sample Condition: On Ice Sealed Intact Laboratory Use Only Yes / No Yes / No (Yeş) No Date/Timo: Carrion Received By Results: Contact () Phone (Email Fax Rhone Email Fax Date Time Initials Contact Date Time Initials Phone Email Fax Contact Phone Email Fax Date Time Initials

4. 798.53B069574 7-2011_version 1

Attachment I

Key to Count Sheets Count Sheets Analytical Procedures

Structures identifications consist of an Asbestos Type followed by a Structure Type

Asbestos Type A = Amosite An = Anthophyllite C = Chrysotile Cr = Crocidolite Cr = Tremolite Structure Types F = Fiber B = Bundle C = Cluster M = Matrix

ND = no structures detected

M = other structure associated with a matrix

NAM = Non Asbestos Mineral

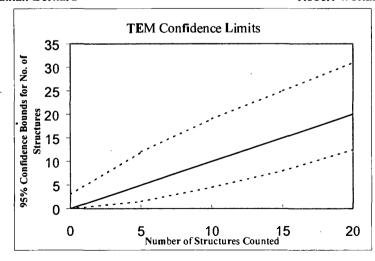
XGB = partly obscured by a grid bar

Sizing Conversion
1 length unit = 5 mm on screen = 0.278 micron
1.80 length units = 0.5 micron
18.0 length units = 5 microns

1 width unit = 1 mm on screen = 0.0556 micron

TEM Analysts

Jeanne S. Orr Nathan DelHierro Angela Heitger Jonathan Bernard Paul D. LoScalzo Mark Steiner Norberto Zimbleman Robert Workman



Upper and lower 95% confidence bounds for the number of structures counted assuming a Poisson distribution.

Reservoirs Environmental, Ine. TEM Asbestos Structure Count

Laboratory name;	REI
Instrument	JEOL 100 CX N S
Voltage (KV)	100 KV
Magnification	2dKX 10KX
Grid opening area (mm2)	0.01
Scale: 1L=	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm2)	385
Secondary Filter Area (mm2)	
QA Type	

Client :	RIP
Sample Tyoe (A=Air, D=Dust):	A
Air volume (L) or dust area (cm2)	957
Oate received by lab	4/27/12
Lab Job Number:	234685
Lab Sample Number:	878899

F-Factor Calculation (Indirect Preps Only):						
Fraction of primary filter used						
Total Resuspension Volume (ml)						
Volume Applied to secondary filter (ml)						

Analyzed by	1/1
Analysis date	4/27/12
Method (D=Oirect, I=Indirect, IA=Indirect, ashed)	D .
Counting rules (ISO, AHERA, ASTM)	AH
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

Grid	Grid Opening	Structure	No. of Str	uctures	Oime	nsions Identification		Mineral Class				1 = y	1 = yes, blank = no		
One of the contract of the con	One opening	Туре	Primary	Total	Length	Width	i dominioation	Amphibole	С	NAM	Sketch/Comments	Sketch	Photo	EDS	
A	15-1	M										,			
	K51	M			fn	o F	sit in	tuck 5.	72.	lebr	25				
	145-1	M			` ~	ŀ	b M	1.11	4/	2711					
	951	M													
	F5.	NO					_								
B	115-6	M						-							
	F546	M													
	856	M													
	C5-6	M									·				

Reservoirs Environmental, Inc. TEM Asbestos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX N S
Voltage (KV)	100 KV
Magnification	20KX>10KX
Grid opening area (mnı2)	0.01
Scale: 1L =	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm2)	385
Secondary Filter Area (mm2)	<u> </u>
QA Type	

Client :	RIP
Sampte Type (A=Air, D=Dust):	A
Air voluma (L) or dust area (cm2)	957
Date received by lab	4/27/12
Lab Job Numben	234685
Lab Sample Number:	878900

Fraction of primary litter used	
Total Resuspension Volume (ml)	
Volume Applied to secondary filter (mi)	

	7-
Analyzed by	THE
Analysis date	4/27/12
Method (D=Direcf, I=Indirect, IA=Indirect, ashed)	D
Counting rules (ISO, AHERA, ASTM)	ALL
Grid storage location	Month Analyzed
Scope Alignment	Oate Analyzed

Grid	Grid Opening	Structure	No. of Str	uctures	Dime	nsions	identification	Mineral Class				1 = y	es, blank	= no
- Cina	Ond Opening	Туре	Primary	Total	Length	Width	Identinoation	Amphibola	С	NAM	8ketch/Comments	Sketch	Photo	EDS
A	63-4	M												
	F3-4	M		,		Pn	ey A 9	Binnet	5-	7%	labin			
	E3-4	M				Pre		J Jane	a	1/2	71/2			
	Czy	M				}		00		//-				
	133-4	M												
<i>b</i>	H3-1	W									•			
	631	M					·							
	P3-1	5									,			
	23-1	M												
									·					

Raservoirs Environmental, Inc. TEM Astrestos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX N S
Voltage (KV)	100 KV
Magnification	20KX 10KX
Grid opening area (mm2)	0.01
Scale: 1L =	0.28 um
Scale: 1D =	0.0 58 um
Primary filter area (mm2)	385
Secondary Filter Area (mm2)	
QA Type	

Client :	RIP
Sample Type (A=Air, D=Dust):	A
Air volume (L) or dust area (cm2)	785
Date received by lab	4/27/12
Lab Job Number:	234685
Lab Sample Number:	878901
· · · · · · · · · · · · · · · · · · ·	·

F-Factor Calculation (Indirect Preps Only):					
Fraction of primary filter used					
Total Resuspension Voluma (ml)					
Volume Applied to secondary fitter (ml)					

Analyzed by	-Re
Analysis date	4/27/12
Method (D=Direct, t=Indirect, IA=Indirect, ashed)	Ď.
Counting rules (ISO, AHERA, ASTM)	AH
Grid storage location	Month Analyzed
Scope Alignment	Oate Analyzed

Grid	Grid Opening	Structure	No. of Str	uctures	Dimer	nsions	identification	Mineral Class				i = y	es, blank	= no
Cito	·	Type	Primary	Total	Length	Width	130Huiloution	Amphibole	С	NAM	Sketch/Comments	Sketch	Photo	EDS
A	K3-3	M		,			·							
	1+3-3	M		,	Pn	er W	90%	Mace 5	73	del	n 5			
	933	N			Pre	rB.	Jes	wher 5	770	leb.	vs Jes	41	2.71	2
	F33	M					i			<u></u>	00	.,		
	E3-3	M												
B	43-1	M							<u> </u>					-
	93-1	M												
	131	M												
	23-1	M			·	-								
	(3-1	M						,	·					

Reservoirs Environmental, Inc. TEM Asbestos Structure Count

Laboratory name:	RE1
Instrument	JEOL 100 CX N (S)
Voltage (KV)	100 KV
Magnification	20KX 10KX
Grid openino area (mm2)	0.01
Scale: 1L =	0.28 um
Scale: 1D=	0.056 um
Primary filter area (mm2)	385
Secondary Filter Area (mm2)	-
QA Type	

Client:	RIP
Sample Type (A=Air, D=Dust):	A
Air volume (L) or dust area (cm2)	955
Date received by lab	4/27/12
Lab Job Number:	234685
Lab Sample Number:	878902

Analyzed by	-DC
Analysis date	4/27/12
Method (D≖Direct, I=Indirect, IA=Indirect, ashed)	D
Counting nules (ISO, AHERA, ASTM)	AH
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

F-Factor Calculation (Indirect Preps C	only):
Fraction of primary filter used	
Total Resuspension Volume (m0	
Volume Applied to secondary filter (ml)	

Grid	Grid Opening	Structure	No. of Str	mctures Dimensions		No. of Structures		Dimensions		Mineral Class			1 = y	es, blank	= no
Ond .	Ond Opening	Туре	Primary	Total	Length	Width	Identification	Amphibole	С	NAM	Sketch/Comments	Sketch	Photo	EDS	
A	¥3-3	M													
	H3-3	M		,	Pres	A 8	ni Go	tuca 5-	10%	les					
	633	M			Pres	3	70% W	Jack 51	06 d	Abri	In f	X 4	127	1/2	
	F33	(M)									11	.,			
	833	W											-		
B	46-4	M								•					
	G621	M													
	Pb-4	W.													
	960-4	M)													

Analytical Procedures - AHERA

Transmission electron microscopy/energy dispersive X-ray spectrometry/selected area electron diffraction (TEM/EDX/SAED) was employed in the analysis of the samples, which were collected on 25 mm mixed cellulose ester air filters. A portion of each filter was collapsed with acetone and etched in a plasma asher. The etched filter was then coated with a thin layer of carbon in a carbon side down. The sample was then placed inside a condensation washer and treated with acetone to remove the filter matrix and expose any inert material.

For each sample, enough grid openings on a 200 mesh TEM grid are analyzed to ensure an analytical sensitivity of at least 0.005 structures/cc. A minimum of four grid openings from two preparations are analyzed for each sample. The grid openings are searched for fibrous structures which, if present are analyzed by SAED and/or EDX (elemental analysis). The AHERA protocol requires SAED confirmation of enough chrysotile asbestos structures on each sample to cause the sample to exceed 70 structures/mm² (usually 4 or 5 structures). Both SAED and EDX confirmation are required of enough amphibole structures on each sample to cause the sample to exceed 70 structures/mm² (usually 4 or 5 structures) per sample. Either SAED or EDX is required for the remaining asbestos structures of either type. The morphology of each structure is detennined and the length and the diameter of any asbestos structures are recorded. Asbestos fibers, bundles, cluster and matrices were identified and recorded. The asbestos structures have been defined in AHERA as follows:

Fiber: is a structure having a minimum length greater than or equal to 0.5

micron with an aspect ratio of 5:1 or greater with substantially parallel

sides.

Bundle: is a structure composed of three or more fibers in parallel arrangement,

with each fiber closer than the diameter of one fiber.

Cluster: is a structure with fibers in random arrangements such that all fibers are

intermixed and no single fiber is isolated from the group.

Matrix: is a fiber or fibers with one end free and the other end embedded or

hidden by a particulate. The exposed fiber end must meet the fiber

definition given above.

If more than 50 asbestos structures are identified and confirmed on a sample, AHERA analysis may be terminated after completion of the grid opening, which contains the 50th structure. AHERA protocol requires the laboratory to reject any clearance sample which contains in excess of 25% total particulate loading or which appears to be unevenly loaded.

The AHERA protocol includes specific sampling requirements, including minimum numbers of samples and minimum air volumes. Specifically, the 70 structures/mm² clearance criteria is only allowed for sets five inside samples (collected in a group of 13 samples including: five outsides and three blanks) with volumes greater than 1200 liters (40 CFR Part 763, page 41894). Deviation from the AHERA sampling protocol may affect the validity of the analytical results. Analysis of samples collected by non-protocol methods are not accredited by NVLAP

Equations Used for Calculations

Area Analyzed, mm² = # GO counted x Average GO Area (mm)

Concentration, $s/cc = \frac{\text{\# Asbestos Structures}}{\text{\# GO Counted}} \times \frac{1}{\text{Volume (L)}} \times \frac{\text{Eff. Filter Area (mm}^2)}{\text{Average GO area (mm}^2)} \times \frac{1L}{1000cc}$

Filter loading, s/Inm² = # Asbestos stmctures Area Analyzed (mm²)

GO = TEM grid opening



May 1, 2012

Laboratory Code:

RES NA

Subcontract Number: Laboratory Report:

RES 234797-1

Project # / P.O. #

None Given

Project Description:

3rd West Sub - RMP

David Roskelley R & R Environmental 47 West 9000 South #2 Sandy UT 84070

Dear Customer,

Reservoirs Environmental, Inc. is an analytical laboratory accredited for the analysis of Industrial Hygiene and Environmental matrices by the National Voluntary Laboratory Accreditation Program (NVLAP), Lab Code 101896-0 for Transmission Electron Microscopy (TEM) and Polarized Light Microscopy (PLM) analysis and the American Industrial Hygiene Association (AIHA), Lab ID 101533 - Accreditation Certificate #480 for Phase Contrast Microscopy (PCM) analysis. This laboratory is currently proficient in both Proficiency Testing and PAT programs respectively.

Reservoirs Environmental, Inc. has analyzed the following samples for asbestos content as per your request. The analysis has been completed in general accordance with the appropriate methodology as stated in the attached analysis table. The results have been submitted to your office.

RES 234797-1 is the job number assigned to this study. This report is considered highly confidential and the sole property of the customer. Reservoirs Environmental, Inc. will not discuss any part of this study with personnel other than those of the client. The results described in this report only apply to the samples analyzed. This report must not be used to claim endorsement of products or analytical results by NVLAP or any agency of the U.S. Government. This report shall not be reproduced except in full, without written approval from Reservoirs Environmental, Inc. Samples will be disposed of after sixty days unless longer storage is requested. If you have any questions about this report, please feel free to call 303-964-1986.

Sincerely.

Jeanne Spencer Orr

President

RESERVOIRS ENVIRONMENTAL, INC.

NVLAP Lab Code 101896-0; TDH: #30-0015

TABLE I. TEM AIR FILTER SAMPLE DATA AND ANALYTICAL RESULTS

RES Job Number:

RES 234797-1

Client:

R & R Environmental

Client Project Number / P.O.: None Given

Client Project Description: Date Samples Received:

3rd West Sub - RMP

April 30, 2012

Analysis Type:

TEM, AHERA

Turnaround:

24 Hour

Oate Samples Analyzed:

April 30, 2012

Client	Lab		Area	Air	Number of	Analytical	Astestos	Filter	
ID Number	ID Numbe		Analyzed	Volume Sampled	Asbestos Structures Detected	Sensitivity	Concentration	Loading	
			(mm²)	(L)		(s/cc)	(s/cc)	(s/mm²)	
3W-042712 W	EM	879146	0.0900	884	ND	0.0048	BAS	BAS	
3W-042712 N	EM	879147	0.0900	88 2	ND	0.0049	BAS	BAS	
3W-042712 E	EM	879148	0.0900	884	ND	0.0048	BAS	BAS	
3W-042712 S	EM	879149	NA	884	NA	Sample F	Rejected Due to Blow	n Filter	

NA = Not Analyzed

Filter Material = Mixed Cellulose Ester

ND = None Detected

Filter Diameter = 25 mm

BAS = Below Analytical Sensitivity Average Grid Opening in mm² = 0.010 Effective Filter Area = 385 sq mm

DATA QA

Due	Date: 1	٠	5	•	(-	12
Due	Time:		_	73	4	<u> </u>

Contact

Phono Email Fax

Date

Time

Reservoirs Environmental, Inc. Page 1 of INVOICE TO: (IF DIFFERENT) CONTACT INFORMATION: Company: RER Environmenta lave Roskeller Address: 47 W 90005 #2 Phone Sandy W. 84070 Fox Cell/pager Project Number and/or P.O. #: Project Description/Location: 35 West Sub - RMP REQUESTED ANALYSIS ASBESTOS_ABORATORY HOURS: Weekdays: 7am - 7pni **VALID MATRIX CODES** LAB NOTES: PLM / PCM ATEM RUSH (Same Day) PRIORITY (Next Day) STANDARD Alr = A Bulk = B (Rush PCM = 2hr, TEM = 6hr.) Dust = D Paint = P CHEMISTRY LABORATORY HOURS: Weekdays: Bam - Spm Soil = S Wipe = W **5112** RUSH ___ 24 hr. ___ 3-5 Day Metal(s) / Dust Swab = SW F = Food Quant **Prior petification is Drinking Water = DW Waste Water = WW RCRA 8 / Metals & Welding Point Count RUSH ___ S day ___10 day required for RUSH Fume Scan / TCLP II, 7402, ISO, +f-, (ISO-indirect Preps O = Other tumarounds.** **ASTM E 1792 approved wipe media only** Organics 24 hr. ___ 3 day ___5 Day MICROBIOLOGY LABORATORY HOURS: Weekdays: 9am - 6pm E.coll O157:H7, Collforms, S.aureus 24 hr. ___2 Day SH¥ OSH¥ Salmonella, Listeria, E.coll, APC, Y & M 48 Hr. ___ 3-5 Day Hold RUSH 24 Hr_ _48 Hr __ 3 Day S Day *Tumaround times establish a laboratory priority, subject to laboratory volume and are not guaranteed. Additional fees apply for afterhours, weekends end holidaye,** Matrix Code Special Instructions: (L) / Area M Number (Laboratory Date Time Use Only) Collected Collected Client sample ID number (Sample ID's must be unique) MICROBIOLOay hh/mm a/o 884 SW-042712 W 8 7914L 47 884 48 45 6 10 Number of eamples received: (Additional samples shall be listed on attached long form.) mation mostived and will not be responsible for errors or omissions in calculations resulting from the inaccurecy of original data. By Signing client/company representative agrees that submission of the following samples for requested analysis as indicated on this Chain of Custom shall constitute an analytical services agreement with payment terms of NET 30 days, failure to comply with payment terms may result in a 1.5% monthly interest surcharge. Relinquished By: Date/Time: Sample Condition: On Ice Sealed Intact Laboratory Use Only 945 Temp. (F°) Yes / No Yes / No Yes/No Feeler 4.30.12 Received By Dale/Time: Results: Phone Einail Eex Contact Phone Email Fax Data Tima Initials Contact Time Of En Initials Date <

Contact

Initials

Phone Email Fax

Date

Time

7935 0254 8058

Attachment I

Key to Count Sheets Count Sheets Analytical Procedures

Structures identifications consist of an Asbestos Type followed by a Structure Type

Asbestos Type

Structure Types

Α	=	Amosite	$\mathbf{F} =$	Fiber
An	=	Anthophyllite	B =	Bundle
C	=	Chrysotile	C =	Cluster
Cr	=	Crocidolite	M =	Matrix
T	_	Tramolita		

ND = no structures detected

M = other structure associated with a matrix

NAM = Non Asbestos Mineral

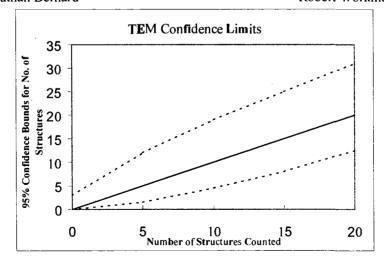
XGB = partly obscured by a grid bar

Sizing Conversion
1 length unit = 5 mm on screen = 0.278 micron
1.80 length units = 0.5 micron
18.0 length units = 5 microns

1 width unit = 1 mm on screen = 0.0556 micron

TEM Analysts

Jeanne S. Orr Nathan DelHierro Angela Heitger Jonathan Bernard Paul D. LoScalzo Mark Steiner Norberto Zimbleman Robert Workman



Upper and lower 95% confidence bounds for the number of structures counted assuming a Poisson distribution.

Reservoirs Environmental, Inc. TEM Asbestos Structure Count

Laboratory name:	RE1
Instrument	JEOL 100 CX N S
Voltage (KV)	100 KV
Magnification	BOKX 10KX
Grid openina area (mm2)	0.01
Scale: 1L=	0.28 um
Scale: 1D =	0.056 um
Primary filler area (mm2)	385
Secondary Filter Area (mm2)	
QA Type	

Client :	RaR
Sample Type (A=Air, D=Dust):	A
Air yolume (L) or dust area (cm2)	884
Date received by lab	4/30/12
Lab Job Number:	234797
Lab Sample Number:	879146

Analyzed by	AH
Analysis date	4/30/12
Method (D=Dlrect, I=Indirect, IA=Indirect, ashed)	D
Counting rules (ISO, AHERA, ASTM)	Ahera
Grid storage location	Month Analyzed
Scope Alignment	Oate Analyzed

F-Factor Calculation (Indirect Preps Only):					
Fraetian of primary filter used					
Total Resuspension Volume (ml)					
Volume Applied to secondary filter (ml)					

Grid	Grid Opening	Structure	No. of St	No. of Structures Dimensions		No. of Structures		Dimensions Identification Mineral Class		neral Class			1 = y	es, blank	= no
Grid	Grid Opening	Туре	Primary	Total	Length	Width	identineditori	Amphibole	С	NAM	Sketch/Comments	Sketch	Pholo	EOS	
A	H4-1.	ND			,	•									
	64-1	25													
	F4-1	ND		Prec	A> 90	o du in	tact	3-5%	ebs						
	E4-1	ND		Pien		Piec	1			•					
	C4-1	<u> </u>				,			·					ļ	
B	65-1	ND													
	F5-1'	ND			0										
	E5-1	DY			V										
	C5-1	2													
												_			

Reservoirs Environmental, tnc. TEM Asbestos Structure Count

Leboratory name:	REt
Instrument	JEOL 100 CX NS
Voltage (KV)	. 100 KV
Magnification	BOKX 10KX
Grid opening area (mm2)	0.01
Scale: 1L =	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mnı2)	385
Secondary Filter Area (mm2)	
QA Type	1

Client:	RAR
Sample Type (A=Air, D=Dust):	A
Air volume (L) or dust area (cm2)	882
Date received by tab	4/30/12
Lab Job Number:	234797
Lab Sampla Number:	879147

Analyzed by	Ан
Analysis date	4/30/12
Method (D=Direct, l=Indirect, IA=Indirect, ashed)	D
Counting niles (ISO, AHERA, ASTM)	Ahera
Grid storage location	Month Analyzed
Scope Alignment	Oate Analyzed

F-Factor Calculation (Indirect Preps Only):					
Fraction of primary filler used					
Total Resuspension Volume (mi)					
Volume Applied to secondary filter (ml)					

Grid	Grid Opening	Structure	No. of St	ructures	Dime	nsions	Identification	Mineral Class				1 = v	es, blank	= no
0	Ond Openions	Туре	Primary	Total	Length	Width	Identification	Amphibole	С	NAM	Sketch/Comments	Sketch	Photo	EDS
A	F5-6.	ND									·			
	E5-6	22		٠.				·			·			
	C5-6	5		Piert	C 90	du in	tact	3-5% de	625					
	B5-6	3		Pien B) = Leo	4 int	act	.].	623					
	A5-6	W					·							
B	H7-4	N				·								· ·
	67-4	2												
	F7-4	5					÷							
	E7-4	N)												
												,		

Reservoirs Environmental, Inc. 7EM Asbestos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX ti S
Voltage (KV)	100 KV
Magnification	SORX 10KX
Grid openino area (mm2)	0.01
Scale: 1L =	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm2)	385
Secondary Filter Area (mm2)	
QA Tyoe	

Client :	Rar
Sample Tyce (A=AIr, D=Dust):	A
Air volume (L) or dust area (cm2)	884
Date received by lab	4/30/12
Lab Job Number:	234797
Lab Sample Numben	879148

Fraction of primaty filter used	
Total Resuspension Volume (mi)	
Volunte Applied to secondary filtar (ml)	

Analyzed by	AH
Analysis date	4/20/2
Method (D=Oirect, I=Indirect, IA=Indirect, ashed)	\(\bar{D}\)
Counting rules (ISO, AHERA, ASTM)	Ahera
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

Grid	Grid Opening	Structure	No. of Str	ictures	Dime	nsions	Identification	Mineral Class			1 = yes, blank = no		= no_	
Gild	Grid Operang	Туре	Primary	Total	Length	Width	Identification	Amphibole	С	NAM	Sketch/Comments	Sketch	Photo	EDS
A	44-4.	M		<u></u>										
	64-4	NO									·			
	F44	MD_												
	E36	ND		Piect	t: 70	d in	act	54 de	bas					
	(3-6)	MD		Pier	B:9	0 %	tact	5% de	/ \					
B	F43	M			ŕ	J.		· · · · · · · · · · · · · · · · · · ·						
	E4-3'	4												_
	U1-3	ND				\setminus	1				·			
	34-3	2		·		X)							
		л 		<u>.</u>										

Reservoirs Environmental, Inc. TEM Asbestos Structure Count

Laboratory name:	REI
Instmment	JEOL 100 CX N/S)
Voltage (KV)	100 KV
Magnification	SOROK 10KX
Grid opening area (mm2)	0,01
Scale: 1L =	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm2)	<u>~ 385</u>
Secondary Filter Area (mm2)	
QA Type	

Rap
A
884
4/30/12
234797
879149

F-Factor Calculation (Indirect Preps Only):						
Fraction of primary filter used						
Total Resuspension Volume (ml)						
Volume Applied to secondary filter (mf)						

Analyzed by	AH
Analysis date	4/30/17
Method (D=Direct, l=Indirect, IA=Indirect, ashed)	D
Counting rules (ISO, AHERA, ASTM)	Ahera
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

Grid	Grid Opening	Structure Type	No. of Structures		Oimensions		Identification	Mineral Class				1 ≂ yes, blank = no		
			Primary	Total	Length	Width	ruentification	Amghibole	С	NAM	Sketch/Comments	Sketch	Photo	EDS
				·										
		Same) Y Q	iect o	d	due	to blo	en fi	1+01					
					,			·						
	,													
		,		· .		·								

Analytical Procedures - AHERA

Transmission electron microscopy/energy dispersive X-ray spectrometry/selected area electron diffraction (TEM/EDX/SAED) was employed in the analysis of the samples, which were collected on 25 mm mixed cellulose ester air filters. A portion of each filter was collapsed with acetone and etched in a plasma asher. The etched filter was then coated with a thin layer of carbon in a carbon side down. The sample was then placed inside a condensation washer and treated with acetone to remove the filter matrix and expose any inert material.

For each sample, enough grid openings on a 200 mesh TEM grid are analyzed to ensure an analytical sensitivity of at least 0.005 structures/cc. A minimum of four grid openings from two preparations are analyzed for each sample. The grid openings are searched for fibrous structures which, if present are analyzed by SAED and/or EDX (elemental analysis). The AHERA protocol requires SAED confirmation of enough chrysotile asbestos structures on each sample to cause the sample to exceed 70 structures/mm² (usually 4 or 5 structures). Both SAED and EDX confinnation are required of enough amphibole structures on each sample to cause the sample to exceed 70 structures/mm² (usually 4 or 5 structures) per sample. Either SAED or EDX is required for the remaining asbestos structures of either type. The morphology of each structure is detennined and the length and the diameter of any asbestos structures are recorded. Asbestos fibers, bundles, cluster and matrices were identified and recorded. The asbestos structures have been defined in AHERA as follows:

Fiber: is a structure having a minimum length greater than or equal to 0.5

micron with an aspect ratio of 5:1 or greater with substantially parallel

sides.

Bundle: is a structure composed of three or more fibers in parallel arrangement,

with each fiber closer than the diameter of one fiber.

Cluster: is a structure with fibers in random arrangements such that all fibers are

intermixed and no single fiber is isolated from the group.

Matrtx: is a fiber or fibers with one end free and the other end embedded or

hidden by a particulate. The exposed fiber end must meet the fiber

definition given above.

If more than 50 asbestos structures are identified and confirmed on a sample, AHERA analysis may be terminated after completion of the grid opening, which contains the 50th structure. AHERA protocol requires the laboratory to reject any clearance sample which contains in excess of 25% total particulate loading or which appears to be unevenly loaded.

The AHERA protocol includes specific sampling requirements, including minimum numbers of samples and minimum air volumes. Specifically, the 70 structures/mm² clearance criteria is only allowed for sets five inside samples (collected in a group of 13 samples including: five outsides and three blanks) with volumes greater than 1200 liters (40 CFR Part 763, page 41894). Deviation from the AHERA sampling protocol may affect the validity of the analytical results. Analysis of samples collected by non-protocol methods are not accredited by NVLAP

Equations Used for Calculations

Area Analyzed, $mm^2 = \# GO \text{ counted x Average GO Area (mm)}$

Concentration, $s/cc = \frac{\text{# Asbestos Structures}}{\text{# GO Counted}} \times \frac{1}{\text{Volume (L)}} \times \frac{\text{Eff. Filter Area (mm}^2)}{\text{A verage GO area (mm}^2)} \times \frac{1L}{1000cc}$

Filter loading, s/mm² = # Asbestos structures Area Analyzed (mm²)

GO = TEM grid opening